

## Debate on Artificial Intelligence in Justice, in the Democracy of the Future, of the Digital Society (from Theory to Practice)

José Rascão

*Polytechnic University of Setúbal Graduate School of Business Sciences Setúbal (Portugal)*

**ABSTRACT :** This study aims to debate and analyze the implementation of artificial intelligence (AI) in the Justice Age of the Future Democracy and how it can affect civil and criminal investigation. To do so, a database of indexed scientific papers and conference materials were "searched" to gather their findings. Artificial intelligence (AI), is a science for the development of intelligent machines and has its roots in the early philosophical studies of human nature and in the process of knowing the world, expanded by neurophysiologists and psychologists in the form of a series of theories, about the work of the human brain and thought. The stage of the development of the science of artificial intelligence is the development of the foundation of the mathematical theory of computation - the theory of algorithms - and the creation of computers, Anglin, (1995). "Artificial Intelligence" is a science that has theoretical and experimental parts. In practice, the problem of the creation of "Artificial Intelligence" is, on the one hand, at the intersection of computer technology and, on the other, with neurophysiology, cognitive and behavioral psychology. The Philosophy of Artificial Intelligence serves as a theoretical basis, but only with the appearance of significant results will the theory acquire an independent meaning. Until now, the theory and practice of "Artificial Intelligence" must be distinguished from the mathematical, algorithmic, robotic, physiological, and other theoretical techniques and experimental techniques that have an independent meaning.

**KEYWORDS:** *Artificial Intelligence; Hybrid Smart Systems (HIS); Computer Machines; Robotics; Test of Turing.*

### I. INTRODUCTION

AI has progressively entered different industries and workplaces in recent years as a direct result of technology-related improvements. Among others in areas, the civil and criminal justice systems. AI-enabled technologies have changed the practices of judicial investigation. These technologies entered the global market at exponential rates, Lazzeretti et al., (2022). Organizations find advanced AI selection tools attractive due to improvements in time and cost reduction, efficiency, and effectiveness of investigation, compared to conventional judicial investigation techniques, Esch & Black JS, (2019). These technologies are seen as significant assets in today's "battle for talent," according to Leicht-Deobald et al., (2019). The current trend of more work that can be done at home or in far-flung locations is further spurring the acceptance of alternatives to in-person statements that can be performed remotely, Camacho & Barrios, (2022).

According to Sehgal et al., (2022), judicial procedures have undergone significant transformations as a result of technological advances. The management of justice is changing because of a variety of causes, including technological advances, globalization, increased competitiveness among nations, and a more diverse workforce. When finally, the increase in productivity and the reduction of expenses happens, new technologies must be used, as well as competent workers are recruited and maintained, and the processes of judicial production are stabilized. As this alliance develops to support and enhance goals and objectives, the connection between technologies and human activity is recognized as genuine and vital. Management and decision-making systems rely on technology for support and development. Depending on how much effort, the workforce puts in to find new ideas and implements them.

Second, Bellman & Lee ES, (1978), AI is the process of automating human-like functions such as making decisions, solving problems, and learning. According to Wang et al., (2021), AI is being used in a wide range of applications, from project management and new product development to the automation of tedious and time-consuming tasks performed by human operators in the workplace.

AI allows you to make faster, more effective and more efficient decisions, which contributes to the growth of organizations and brings employees closer together. This lends credence to the idea that AI approaches can be used to improve the efficiency and effectiveness of human resource management, if implemented properly. This subject includes not only the rules and procedures (methodologies of approach), but also the recruitment and selection of potential employees.

Van Esch & Mente, (2018) state that in the search for talent, organizations are beginning to use a variety of technological platforms, as a means of attracting and selecting potential employees. Because of this, AI is being used more frequently in the recruitment and selection process, Fernández-Martínez & Fernández, (2020).

AI, by the nature of its inherent values, allows activities to be completed as quickly as possible, Koskimies & Kinder, (2022). Increased internet access and globalization have driven the emergence and growth of new technologies, making human resource management more important than ever. It has been a goal of judicial leaders and HR experts to make their organizations' human capital a source of competitive advantage, Boxall & Steeneveld, (1999).

There is no single answer as to what Artificial Intelligence (AI) does and can do. The philosophical question of the nature and status of Artificial Intelligence has not been resolved. There are no exact criteria of what Artificial Intelligence can do, although at first several hypotheses were proposed, such as the Turing test or the Newell-Simon hypothesis. However, there are two main approaches to its development:

- Top-down AI, semiotic - creation of expert systems, knowledge bases, and logical inference systems that mimic high-level mental processes: thinking, reasoning, speech, emotions, creativity, etc.;
- Bottom-up, biological AI – the study of neural networks and evolutionary computations that simulate intelligent behavior based on biological elements, as well as the creation of suitable computational systems, such as a neuro computer or Murphy bio computer, (2020).

Turing, (1950), proposed the empirical test with the aim of determining the possibility of artificial thought being close to humans. The Test was as follows: a person interacts with a computer and a person. According to the answers to the questions, you should determine whether you are talking to a person or to the computer program.

It is assumed that AI will be able to exhibit behaviors that do not differ from humans in normal situations. According to the Turing Test, the machine (computer) will become intelligent, when it can hold a conversation with an ordinary person and he is not able to understand that he is talking to the machine (the conversation is by correspondence).

Science fiction often suggests another approach, that AI will emerge, when a computer can sense and create, for example toys, etc., that is, be able to communicate and learn Murphy, (2020). This approach is difficult, however it is easy to create some mechanisms that evaluate parameters of the external and interior environment, to which the computer can respond, such as, "pain" is a reaction to the triggering of a shock sensor, "hunger" is a reaction to a low charge of a battery, etc. These products of "intelligent" systems can be seen as a kind of creativity.

## II. SCIENTIFIC METHOD

It is an exploratory study that seeks to organize the concepts about Artificial Intelligence in Justice, in the Democracy of the Future and its meaning presented in the literature of Social Sciences, Legal Sciences, Computational Sciences. It is not a proposal of new terms and concepts, but rather a research that allows to identify a common denominator, among the different concepts already indicated in the literature, so that it allows its grouping by identity, application / use and pertinence / value addition in the context, in which the terms are inserted. The data collection is characterized by bibliographic research, on the terms and concepts referring to the different scientific fields. It is a descriptive and analytical approach seeking to know and analyze the existing cultural and / or scientific contributions on this subject, from the literature review. The research was structured based on the systemic approach to understanding the problems of Globalization (digital society), seeking in practical, operational or application terms, the solution of problems of the "real life" of Justice and people.

### Research Theme and Problem

The democratic system is the best and the most acceptable, but the problem is that many people don't know exactly what it means, the limits, and the path of the future. It would be ideal if people agreed with each other and created the rules on equal terms that would be valid for the whole of society. However, this is impossible to achieve because every society carries many decisions and all people cannot decide, either for lack of interest, knowledge or time. People can't do it either, because they hardly agree with something and not always or never, they can agree with everything.

Therefore, society accepts an indirect form of democracy where people elect representatives to govern, on their behalf. The candidates, who present the best choice for the populations, win more votes at the polls, receive the mandate to represent him and govern on his behalf in each period.

But Representative Democracy has many imperfections. An elected government does not aim to satisfy the needs of those who did not vote for them, which leaves them dissatisfied. In addition, the representatives of the populations are generally quite privileged and preferably represent the interests of themselves and the "friends" who helped them to be elected and not the interests of the people who voted for them. Politicians are elected with financial support from the rich, and as such are "forced" to follow their interests if they want to be elected. Decisions are taken by authorities (legislative, executive and judicial branches) that do not follow the needs of the populations, but rather the interests of those who support them. Changes related to social and economic well-being occur when elites support the changes. If the elites don't support them, change doesn't happen. Such a democracy cannot be just.

Currently, the terms justice, social and economic well-being are part of the scientific vocabulary and have their concepts more or less defined (although still far from consolidation), due to the need of the current scientific field, immersed in increasingly complex and diversified projects, and a "[...] increasingly intense mobilization of knowledge converging in view of action" Japiassu, (1977, p.44).

Globalization and technological development have posed new challenges to Governments and Judicial Systems regarding the organization, the response capacities, but also the challenges and motivations that allow anticipating future behaviors, related to the lack of knowledge and idiosyncrasies underlying the myopia of their visions.

### Questions for debate

1. Are Human Rights guaranteed by Human Justice, in the Democracy of the Future, using AI?
2. Do the attitudes and behavior of Justice Actors contribute to improving the social and economic well-being of populations using AI technology?
3. Can AI in the Democracy of the Future make the evaluation of the Research Model and Methodology, that is, of the actors in the Research Process, in addition to issuing the Result of the Research Process?

### Objectives

The Charter of Fundamental Rights of the European Union recognizes a wide catalogue of rights for citizens and residents of the European Union. The Charter includes civil and political rights, economic, social and cultural rights, and "third generation" rights, such as the right to the protection of personal data.

Solemnly proclaimed in Nice in December 2000, the Charter is, since the entry into force of the Treaty of Lisbon in December 2009, legally binding (see Article 6 of the Treaty on European Union).

The scope of the Charter is restricted to the scope of European Union law, i.e. it binds the institutions, bodies, offices and agencies of the European Union in all their activities, but binds only the Member States when they apply European Union law.

The **European Union Agency for Fundamental Rights** provides an online tool on the Charter, including the full text of the Charter, legal explanations of the articles, relevant national and Union case-law.

This article seeks to contribute to the debate of the conceptual understanding of the importance of the meanings and concepts of justice, in the scope of Legal Sciences and Social Sciences, among others, from a theoretical framework. The objective is to analyze the scientific research developed by the Sciences, which participate in more than one area of knowledge. The theoretical discussion of the different concepts and empirical research constitute the basis for the tracing of its structure, presented at the end.

The research focused on justice, focusing especially on its nature and characteristics, from the analysis of its praxis in investigations that involve participation with more than one discipline. To this end, the main forms of interaction between the disciplines currently present in scientific practices were studied, as well as the area of Legal Sciences in the scope of contemporary Science, through the analysis of its epistemological characteristics.

### Methodological Approach

As for its nature, the research is qualitative, since it does not claim to quantify events, nor does it privilege statistical study. Its focus is the obtaining of descriptive data, that is, the incidence of topics of interest in fields, such as Legal Sciences, Communication Sciences, Information Science, Computer Sciences and other Sciences. About the extremities, the research is exploratory in nature and descriptive, to the extent that the technique used is categorized, consensually, as a study of direct documentation, which provides for the consultation of sources related to the study in different *media*, printed or electronic.

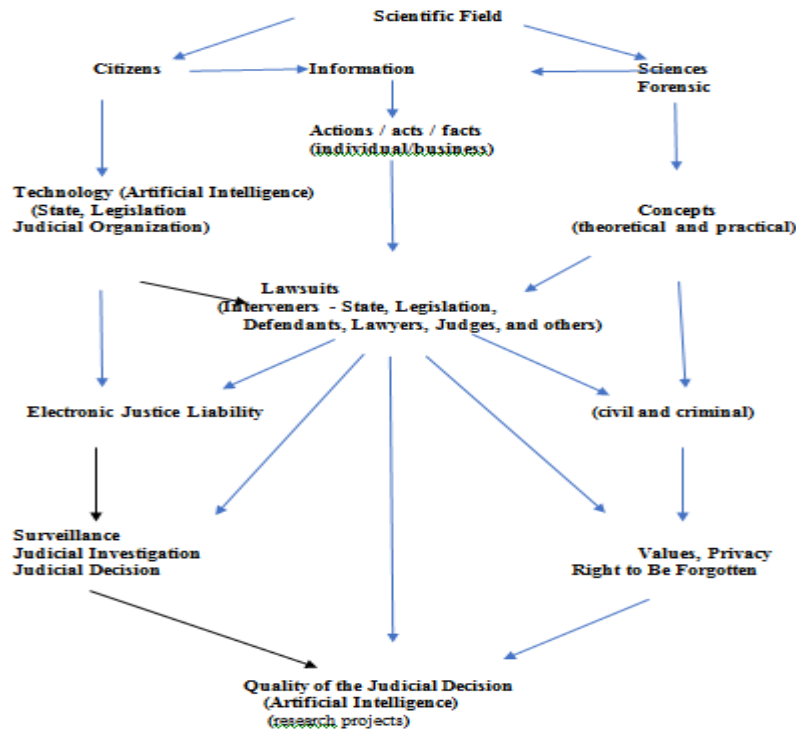
The complexity and turbulence of the digital society have led to the globalization of information on the problem of judicial processes and consequences, as processes essential to the development and innovation of science and technology. Information is the source of the energy that drives the "engines" of the Digital Society, but to use it we need to convert it into a usable form: knowledge, Murteira, (2001).

The research method is likely to cause two or more sciences to interact with each other. This interaction can range from the simple communication of ideas to the mutual integration of concepts, epistemology, terminology, methodology, procedures, data and the organization of research. The data collection is characterized by bibliographic research, on the terms and concepts.

It is necessary to understand, through a theoretical revision of the concepts, through the documents of historical reference; of a psychosocial analysis of the concepts of Privacy, Equity, Justice, Civil and Criminal Liability, Judicial Surveillance, Judicial Investigation, Right to Be Forgotten. applied to Legal Sciences and Social Sciences; the regulatory framework within which they fit; the Internet, as a platform for the exercise of human action and the problems associated with it; digital data, citizen surveillance; the social engineering of Power; online social networks and spaces of trust and conflict.

It is a descriptive and analytical approach seeking to know and analyze the existing cultural and / or scientific contributions on this subject, from the review of the existing literature. The research was structured based on the systemic approach to understanding the problems of privacy and the right to inform, in the Complex and Turbulent Knowledge Society. We represent this conceptual network, as follows:

Figure No. 1 – Model of Actors in Justice (Artificial Intelligence) Scientific Field



Source: own elaboration

It presents the model of approach for intervention in information actions, in the academic space, with the purpose of production and sharing of information and knowledge, among the participants, in addition to promoting the development of skills of search, retrieval, organization, appropriation, production and dissemination of relevant information for scientific researchers, judicial managers and other interest groups, in society.

### III. THEORETICAL-METHODOLOGICAL FRAMEWORK OF THE RESEARCH

#### Evolution of the Concept of Artificial Intelligence

What is AI? What is AI in court? What is the Democracy of the Future? These questions have generated many reflections and debates. As the term "artificial intelligence" suggests, this scientific subject aims to give robots the ability to perform tasks such as logic, reasoning, planning, learning, and perception. It is an interdisciplinary discipline that replicates human capabilities and intellectual behavior through the use of AI. Stimulating human consciousness and thought through the retrieval and extraction of relevant material, as well as providing direct and reasonable answers to our questions, is the goal of the work of this Marwick technology, (2001). Computers that can learn, plan, solve problems, reason, interact socially, be creative and self-correcting are at the heart of AI Haleem et al., (2019).

In contrast to human intelligence, AI is just a demonstration of machine intellect. Robotics, machines, and programs with the ability to learn and understand on their own can be referred to as AI, according to certain definitions Van Wynsberghe, (2021). Robotics, natural language processing, expert systems, and automated reasoning are just a few of Murphy's most recent AI technologies, (2019).

Marvin Lee Minsky, one of the founding fathers of AI, describes it as the study of having robots perform tasks that would need intelligence if they were man-made Sidner et al., (2005). High-level mental functions, such as perception, memory, and critical thinking, are all necessary for success. Machine learning is a broad term that includes many subfields of Computer Science that allow computers to perform functions traditionally performed by humans, such as problem solving and Shinde & Shah decision-making, (2018). The term AI refers to a computer system that is able to learn from its environment and adapt its behavior to achieve its Sarker goals, (2022). In the end, their goal is to turn seemingly diverse problems into a group of generally similar types of problems, after which the problem can be addressed using various algorithms, and eventually generalize the method to examples, in addition to those in the Frey & Osborne training set, (2017).

According to Hobbes, (2020), the concept of Artificial Intelligence was influenced by the mechanical materialism that began with the work "Discourse on the Method" of René Descartes in 1637. René Descartes suggested that the animal is a kind of complex mechanism, thus formulating a mechanistic theory.

It is important to understand that mechanistic materialism differs from ancient materialism, whose opinions are captured in the works of Aristotle, and Hegel's subsequent dialectic, dialectical and historical materialism (Feuerbach, Karl Marx, Friedrich Engels, V. I. Lenin). The truth is that mechanistic materialism is directed to the mechanistic origin of organisms, while ancient materialism is directed to the mechanistic origin of nature, and dialectical and historical materialism refers to the manifestations of mechanism in society.

Schickard, (1623), built the first mechanical machine of digital computing, followed by the machines of Blaise Pascal (1643) and Leibniz (1671). Leibniz was also the first to describe the modern **binary system of numbers**, although many great scientists periodically became interested in this system (Leibniz, 1671). Korsakov, (1832), presented the principle of the development of scientific methods and devices to improve the capacities of the mind and proposed a series of "intelligent machines", in the design of which, for the first time in the history of Computer Science, he used punch cards. In the nineteenth century, Charles Babbage and Ada Lovelace worked on a programmable mechanical computer Hammerman, (2016).

Bertrand Russell and A. N. Whitehead, (1910-1913), published the paper "Principles of Mathematics", which revolutionized formal logic. Konrad Zuse, (1941), built the first software-controlled computer. Warren McCulloch and Walter Pitts, (1943), published "A Logical Calculus of the Ideas Immanent in Nervous Activity," which laid the foundation for neural networks.

McCulloch and Pitts, (1943), in their article "The Logical Calculation of Ideas Related to Nervous Activity", proposed the concept of an artificial neural network. In particular, they proposed a model of an artificial neuron. Hebb, (1949), in his work "Organization of Behavior", described the basic principles of learning neurons. These ideas were developed several years later by the American neurophysiologist Frank Rosenblatt who proposed a diagram of a device that simulates the process of human perception and called it "perceptron".

### 3.1 – FUNDAMENTAL RIGHTS

#### Human rights

Human rights are rights inherent in all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other condition. As such, rights mean that they are not merely privileges, granted by other human beings, but rather qualities inherent in the status of human being and for this reason cannot be disrespected, at the whim of someone. Human rights, constitute an integral part of the essence of man, and fundamentally, as a social and gregarious being, take a decisive role in maintaining, harmoniously and safeguarding freedom, peace and justice among individuals, so that they feel protected from abuses, such as discrimination, intolerance, injustice, oppression and slavery that may arise in this coexistence, as well as feeling the will and freedom to assume themselves with the dignity of what they are – human beings.

Human rights are based on the basic principle of human dignity, which according to Kant "is the value of everything that is priceless, that is, it cannot be replaced by another equivalent. Dignity is an inherent quality of human beings as moral beings (...)". According to Kant., (2005), human dignity is much more than a moral conception, it is an anthropic principle, in which, any valid theory about the universe, has to be consistent with the existence of the human being, that is, the only universe that we can see, is the universe that has human beings.

At the legal level, dignity is also a principle of the democratic rule of law and a prerequisite for the full exercise of democracy, since the promotion of the individual as a social being is prolonged in that of the individual with rights. Human rights have a universal and human vocation as the basis of the new universal order. This free, just and solidary society legitimizes the interference of States in the internal politics of other States; the legitimacy of a humanitarian or humanist military war, when human rights are being "vandalized". Human rights do not crystallize in time and space, since man is "adaptable", human rights also change, adapt and improve.

#### Fundamental Rights of the European Union

The European Parliament, the Council and the Commission solemnly proclaim the following text as the Charter of Fundamental Rights of the European Union.

#### Preamble

The peoples of Europe, establishing an ever-closer union among themselves, have decided to share a future of peace based on common values. Aware of its spiritual and moral patrimony, the Union is founded on the indivisible and universal values of human dignity, freedom, equality and solidarity; it is based on the principles of democracy and the rule of law.

By establishing citizenship of the Union and creating an area of freedom, security and justice, it places the human being at the heart of its action. The Union shall contribute to the preservation and development of these common values, while respecting the diversity of the cultures and traditions of the peoples of Europe, as well as the national identity of the Member States and the organization of their public authorities at national, regional and local level; it seeks to promote balanced and sustainable development and ensures the free movement of persons, services, goods and capital, as well as freedom of establishment. To this end, it is necessary, by giving them greater visibility by means of a Charter, to strengthen the protection of fundamental rights in the light of societal developments, social progress and scientific and technological developments.

This Charter reaffirms, with due regard for the powers and competences of the Union and with due regard for the principle of subsidiarity, the rights deriving, inter alia, from the constitutional traditions and international obligations common to the Member States, from the European Convention for the Protection of Human Rights and Fundamental Freedoms, from the Social Charters adopted by the Union and the Council of Europe, as well as the case-law of the Court of Justice of the European Union and the European Court of Human Rights. In this context, the Charter shall be interpreted by the courts of the Union and the Member States with due regard to the explanations drawn up under the authority of the Praesidium of the Convention which drew up the Charter and updated under the responsibility of the Praesidium of the European Convention. The enjoyment of these rights implies responsibilities and duties, both to other individuals and to the human community and future generations. The Union therefore recognizes the following rights, freedoms and principles.

#### Official Journal of the European Union C 326/395 EN TITLE I DIGNITY

Article 1 - Dignity of the human being - The dignity of the human being is inviolable. It must be respected and protected.

Article 2 - Right to life 1. Everyone has the right to life. 2. No one shall be sentenced to the death penalty or executed.

Article 3 - Right to the integrity of the human being

1. Everyone has the right to respect for his or her physical and mental integrity.
2. In the field of medicine and biology, the following shall be respected, in particular:
  - a) The free and informed consent of the person, in accordance with the law.
  - (b) the prohibition of eugenic practices, in particular those aimed at the selection of persons.
  - (c) the prohibition of transforming the human body or its parts as such into a source of profit.
  - (d) the prohibition of the reproductive cloning of human beings.

Article 4 - Prohibition of torture and inhuman or degrading treatment or punishment. No one shall be subjected to torture, inhuman or degrading treatment or punishment.

Article 5 - Prohibition of slavery and forced labor 1. No one can be subjected to slavery or servitude. 2. No one shall be constrained to perform forced or compulsory labor. 3. Trafficking in human beings shall be prohibited.

Article 6 - Right to liberty and security. Everyone has the right to freedom and security.

Article - Respect for private and family life. Everyone has the right to respect for his or her private and family life, home and communications.

Article 8 - Protection of personal data

1. Everyone has the right to the protection of personal data concerning him/her.



2. Such data shall be processed fairly, for specific purposes and with the consent of the person concerned or on another legitimate basis provided for by law. Everyone has the right to access the data collected concerning him or her and to have it rectified.
3. Compliance with these rules shall be subject to review by an independent authority.
- Article 9 - Right to marry and to find a family. The right to marry and the right to find a family are guaranteed by the national laws governing the exercise thereof.
- Article 10 - Freedom of thought, conscience, and religion
1. Everyone has the right to freedom of thought, conscience, and religion. This right implies the freedom to change one's religion or belief, as well as the freedom to manifest one's religion or belief, individually or collectively, in public or in private, through worship, teaching, practices and the celebration of rites.
2. The right to conscientious objection shall be recognized by the national laws governing the exercise thereof.
- Article 11 - Freedom of expression and information
1. Everyone has the right to freedom of expression. This right includes freedom of opinion and the freedom to receive and transmit information or ideas, without interference by any public authorities and without regard to borders.
2. The freedom and pluralism of the media shall be respected.
- Article 12 - Freedom of assembly and association
1. Everyone has the right to freedom of peaceful assembly and freedom of association at all levels, particularly in the political, trade union and civic spheres, which implies the right to form trade unions with others and to join them for the defense of their interests. 2. Political parties at Union level shall contribute to the expression of the political will of the citizens of the Union.
- Article 13 - Freedom of the arts and sciences. The arts and scientific research are free. Academic freedom is respected.
- Article 14 - Right to education
1. Everyone has the right to education as well as access to vocational and continuing training.
2. This right includes the possibility of attending compulsory education free of charge.
3. The freedom to set up educational establishments, with due regard for democratic principles, and the right of parents to ensure the education and teaching of their children in accordance with their religious, philosophical and pedagogical convictions shall be respected, in accordance with the national laws governing their exercise.
- Article 15 Freedom of professional activity and right to work.
1. Everyone has the right to work and to pursue a freely chosen or accepted profession.
2. Every citizen of the Union shall have the freedom to seek employment, to work, to establish himself or to provide services in any Member State.
3. Third-country nationals who are authorized to work in the territory of the Member States shall be entitled to working conditions equivalent to those enjoyed by Union citizens.
- Article 16 Freedom to conduct a business. The freedom to conduct a business shall be recognized in accordance with Union law and national laws and practices.
- Article 17 Right to property
1. Everyone shall have the right to enjoy ownership of, use, dispose of and transfer in life or death of his lawfully acquired property. No one may be deprived of his property, except for reasons of public utility, in the cases and conditions provided for by law and by means of just compensation for the respective loss, in good time. The use of property may be regulated by law to the extent necessary in the public interest. 2. Intellectual property shall be protected.
- Article 18 Right of asylum. The right of asylum shall be guaranteed within the framework of the Geneva Convention of 28 July 1951 and the Protocol of 31 January 1967 relating to the Status of Refugees and in accordance with the Treaty on European Union and the Treaty on the Functioning of the European Union (hereinafter referred to as 'the Treaties').
- Article 19 Protection in the event of removal, expulsion, or extradition
1. Collective expulsions shall be prohibited.
2. No one shall be removed, expelled or extradited to a State where he is at serious risk of being subjected to the death penalty, torture or other inhuman or degrading treatment or punishment.
- TITLE III EQUALITY**
- Article 20 Equality before the law. All people are equal before the law.
- Article 21 Non-discrimination
1. Discrimination based on, inter alia, sex, race, colour or ethnic or social origin, genetic characteristics, language, religion or belief, political or other opinions, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited. 2. Within the scope of application of the Treaties and without prejudice to their specific provisions, all discrimination on grounds of nationality shall be prohibited.
- Article 22 Cultural, religious, and linguistic diversity. The Union shall respect cultural, religious and linguistic diversity.
- Article 23 Equality between men and women. Equality between men and women must be guaranteed in all areas, including employment, work and pay. The principle of equality shall not prevent the maintenance or adoption of measures providing for specific advantages in favour of the under-represented sex.
- Article 24 Rights of the child
1. Children shall have the right to the protection and care necessary for their well-being. They may freely express their opinion, which shall be considered in matters concerning them, depending on their age and maturity.
2. All acts relating to children, whether performed by public entities or by private institutions, shall consider primarily the best interests of the child.
3. All children have the right to maintain regular personal relationships and direct contact with both parents unless this would be contrary to their interests.
- Article 25 Rights of the elderly The Union recognizes and respects the right of older persons to a dignified and independent existence and to their participation in social and cultural life.
- Article 26 Integration of persons with disabilities. The Union recognizes and respects the right of persons with disabilities to benefit from measures to ensure their autonomy, their social and occupational integration and their participation in the life of the community.
- TITLE IV SOLIDARITY**
- Article 27 Right to information and consultation of employees in the undertaking. Workers or their representatives shall be guaranteed timely information and consultation at appropriate levels in the cases and under the conditions laid down by Union law and national laws and practices.
- Article 28 Right to bargain and take collective action. Workers and employers, or their organizations, shall, in accordance with Union law and national laws and practices, have the right to negotiate and conclude collective agreements at the appropriate levels and to have recourse, in the event of a conflict of interest, to collective actions for the defense of their interests, including strikes.
- Article 29 Right of access to employment services. Everyone has the right to free access to an employment service.

Article 30 Protection in the event of unfair dismissal. Every worker has the right to protection against unfair dismissal, in accordance with Union law and national laws and practices.

Article 31 Fair and just working conditions.

1. All workers have the right to healthy, safe, and dignified working conditions.

2. All workers shall have the right to a limitation of the maximum working time and to daily and weekly rest periods, as well as to an annual period of paid leave.

Article 32 Prohibition of child labor and protection of young people at work. Child labor is prohibited. The minimum age for admission to work may not be lower than the age at which compulsory education ends, without prejudice to provisions more favorable to young people and subject to well-defined derogations. Young people admitted to work must enjoy working conditions adapted to their age and protection against economic exploitation and against all activities likely to harm their safety, health or physical, mental, moral, or social development, or to jeopardize their education.

Article 33 Family and professional life

1. The protection of the family in legal, economic, and social terms shall be ensured.

2. In order to be able to reconcile family and professional life, every person shall have the right to protection against dismissal on grounds of maternity, as well as to paid maternity leave and parental leave for the birth or adoption of a child.

Article 34 Social security and social assistance

1. The Union shall recognize and respect the right of access to social security benefits and social services providing protection in cases such as maternity, sickness, accidents at work, dependency or old age, as well as in the event of loss of employment, in accordance with Union law and national laws and practices.

2. Every person legally residing and moving within the Union shall be entitled to social security benefits and social benefits in accordance with Union law and national laws and practices.

3. To combat social exclusion and poverty, the Union shall recognize and respect the right to social assistance and housing assistance designed to ensure a dignified existence for all those who do not have sufficient resources, in accordance with Union law and national laws and practices.

Article 35 Health protection. Everyone has the right to access health prevention and to medical care in accordance with national laws and practices. A high level of protection of human health shall be ensured in the definition and implementation of all Union policies and activities.

Article 36 Access to services of general economic interest. The Union shall recognize and respect access to services of general economic interest as provided for in national laws and practices, in accordance with the Treaties, to promote the social and territorial cohesion of the Union.

Article 37 Protection of the environment. All Union policies should integrate a high level of environmental protection and the improvement of its quality and ensure them in accordance with the principle of sustainable development.

Article 38 Consumer protection. Union policies should ensure a high level of consumer protection.

#### TITLE V CITIZENSHIP

Article 39 Right to vote and to stand as a candidate in elections to the European Parliament

1. Every citizen of the Union shall have the right to vote and to stand as a candidate in the European Parliament in the Member State of residence under the same conditions as nationals of that State.

2. Members of the European Parliament shall be elected by direct, free and secret universal suffrage.

Article 40 Right to vote and to stand as a candidate in municipal elections. Every citizen of the Union shall have the right to vote and to stand as a candidate in municipal elections in the Member State of residence under the same conditions as nationals of that State.

Article 41 Right to good administration

1. Everyone shall have the right to have his or her affairs handled impartially, fairly and within a reasonable time by the institutions, bodies, offices, and agencies of the Union.

2. This right shall include, in particular:

(a) the right of any person to be heard before any individual measure affecting him or her is taken which adversely affects him.

(b) the right of any person to have access to the files relating to him, while respecting the legitimate interests of confidentiality and professional and commercial secrecy.

(c) the obligation on the part of the administration to state the reasons for its decisions.

3. Every person shall have the right to compensation from the Union for damage caused by its institutions or by its servants in the performance of their duties, in accordance with the general principles common to the laws of the Member States.

4. Everyone shall have the opportunity to address the institutions of the Union in one of the languages of the Treaties and shall obtain an answer in the same language.

Article 42 Right of access to documents. Any citizen of the Union, as well as any natural or legal person residing or having its registered office in a Member State, shall have the right of access to documents of the institutions, bodies, offices, and agencies of the Union, whatever the medium of those documents.

Article 43 European Ombudsman. Any citizen of the Union, as well as any natural or legal person residing or having its registered office in a Member State, shall have the right to petition the European Ombudsman concerning instances of maladministration in the activities of the institutions, bodies, offices, or agencies of the Union, with the exception of the Court of Justice of the European Union in the exercise of its judicial functions.

Article 44 Right of petition. Any citizen of the Union, as well as any natural or legal person residing or having its registered office in a Member State, shall enjoy the right to petition the European Parliament.

Article 45 Freedom of movement and residence

1. Every citizen of the Union shall have the right to move and reside freely within the territory of the Member States.

2. Freedom of movement and residence may be granted, in accordance with the Treaties, to third-country nationals legally residing in the territory of a Member State.

Article 46 Diplomatic and consular protection. Every citizen of the Union shall enjoy protection in the territory of third countries in which the Member State of which they are nationals is not represented, protection by the diplomatic and consular authorities of any Member State under the same conditions as nationals of that State.

#### TITLE VI JUSTICE

Article 47 Right to an effective remedy and to a fair trial. Any person whose rights and freedoms guaranteed by Union law have been infringed shall have the right to an effective remedy before a court in accordance with this Article. Everyone has the right to have his or her case heard fairly, publicly and within a reasonable time by an independent and impartial tribunal previously established by law. Every person has the possibility to be advised, defended and represented in court. Legal aid shall be granted to those who do not have sufficient resources, in so far as such assistance is necessary to ensure effective access to justice.

## Article 48 Presumption of innocence and rights of defense

1. Every accused person shall be presumed innocent until proven guilty by law.
2. Every defendant is guaranteed respect for the rights of defense.

## Article 49 Principles of legality and proportionality of offences and penalties

1. No one shall be convicted of an action or omission which, at the time of its practice, did not constitute an offence under national or international law. Nor can a more serious penalty be imposed than that applicable when the offence has been committed. If, after the offence, the law provides for a lighter penalty, that should be the penalty imposed.
2. This Article shall be without prejudice to the sentence or punishment to which a person has been convicted of an action or omission which, at the time of its practice, constituted a crime under the general principles recognized by all nations.
3. The penalties should not be disproportionate to the offence.

Article 50 The right not to be tried or punished criminally more than once for the same offence. No one shall be tried or punished criminally for an offence of which he has already been acquitted or for which he has already been convicted in the Union by a final judgment in accordance with the law.

## TITLE VII GENERAL PROVISIONS GOVERNING THE INTERPRETATION AND APPLICATION OF THE CHARTER

## Article 51 - Scope

1. The provisions of this Charter are addressed to the institutions, bodies, offices, and agencies of the Union, with due regard for the principle of subsidiarity, and to the Member States only when they are implementing Union law. They should therefore respect the rights, observe the principles, and promote their application, in accordance with their respective competences and within the limits of the competences conferred on the Union by the Treaties.
2. This Charter does not extend the scope of Union law to competences other than those of the Union, does not create any new tasks or competences for the Union, nor does it modify the tasks and competences defined by the Treaties.

## Article 52 Scope and interpretation of rights and principles

1. Any restriction on the exercise of the rights and freedoms recognized by this Charter shall be provided for by law and shall respect the essential content of those rights and freedoms. In compliance with the principle of proportionality, such restrictions may be introduced only if they are necessary and genuinely correspond to objectives of general interest recognized by the Union, or to the need to protect the rights and freedoms of others.
2. The rights recognized by this Charter which are governed by the provisions of the Treaties shall be exercised in accordance with the conditions and limits laid down by them.
3. To the extent that this Charter contains rights corresponding to the rights guaranteed by the European Convention for the Protection of Human Rights and Fundamental Freedoms, the meaning and scope of those rights shall be the same as those conferred by that Convention. That provision does not preclude EU law from providing more extensive protection.
4. To the extent that this Charter recognizes fundamental rights deriving from the constitutional traditions common to the Member States, those rights shall be interpreted in accordance with those traditions.
5. The provisions of this Charter which contain principles may be implemented by means of legislative and executive acts taken by the institutions, bodies, offices, and agencies of the Union and by acts of the Member States when they are implementing Union law, in the exercise of their respective competences. They shall be invoked before the court only for the purpose of interpreting those acts and reviewing their legality.
6. National laws and practices shall be taken full account of as specified in this Charter. 7. The courts of the European Union and of the Member States shall take due account of the explanations intended to guide the interpretation of this Charter.

Article 53 Level of protection. Nothing in this Charter shall be interpreted as restricting or adversely affecting human rights and fundamental freedoms recognized, in their respective fields of application, by Union law, international law and international conventions to which the Union or all the Member States are parties, in particular the European Convention for the Protection of Human Rights and Fundamental Freedoms, as well as by the constitutions of the Member States.

Article 54 Prohibition of abuse of rights. Nothing in this Charter shall be interpreted as implying any right to engage in activities or perform acts aimed at the destruction of the rights or freedoms recognized by it or restrictions of those rights and freedoms greater than those provided for in this Charter. ° ° ° ° The preceding text takes up, adapting, the Charter proclaimed on 7 December 2000 and replaces it from the date of entry into force of the Treaty of Lisbon

## Right to Privacy

The origin of the concept of human rights originated in the seventeenth century and is a product of the theory of "natural rights" (Natural rights were established by God and reason, to all men, because they are all equal – Principle of Equality among Men), of John Locke, defender of religious freedom and tolerance. However, in the age before Christ, there was already an embryonic perception of the concept and of human specificity:

- Cyrus' cylinder decree of 539 BC, - protects the right to equality and religious freedom.
- Pact of the Virtuous (Half-al-fuddle) – drafted by Arab tribes around 590 AD is considered one of the first alliances of human rights.
- No tribute may be imposed without the consent of Parliament,
- No subject may be imprisoned without demonstrated reason (the reaffirmation of the right of habeas corpus),
- No soldier can be quartered in the homes of citizens.
- Magna Carta - establishes equality before the law and the right to property.

After King John of England violated several ancient laws and customs, by which England had been governed, in 1215 his subjects forced – in the sign of the Magna Carta, which enumerates what later came to be regarded as human rights. Among them were:

- The right of the church to be free from government interference,
- The right of all free citizens to own, inherit property(s), and be protected from excessive taxes.
- The right of widows to own property and to decide not to remarry,
- Establish the principles of equality before the law. This also contains provisions prohibiting bribery and official misconduct. (A Brief History of Human Rights - The Magna Carta (1215);
- The Petition of Law (1628), - the English Parliament passed a declaration of civil liberties, which safeguards civil liberties, such as, the right of *habeas corpus*.
- The Constitution of the United States of America (1787) - defines the basic rights of citizens.

The Declaration of Independence of the United States of America "was the document in which the Thirteen Colonies of North America declared their independence from Great Britain, inspired human rights documents all over the world." (United States Declaration of Independence (1776).

The Constitution of the United States of America (1787) "is the oldest National Constitution, and it defines the principal organs of government, their jurisdictions, and the basic rights of citizens." (A Brief History of Human Rights - The Constitution of the United States of America (1787) and the Bill of Rights (1791).

The Declaration of the Rights of Man and of the Citizen (1789) comes to mark in a broader and more significant way the historical process of Western awareness, of the intrinsic value of Man. The French Declaration of Human Rights emerged in the context of great political and social upheaval, under the Enlightenment influence of natural rights and Renaissance ideas that evoked equality, among all human beings, calling the old ideals into question.

The Bill of Rights (1791) - "... protects freedom of speech, freedom of religion, the right to keep and use weapons, freedom of assembly and freedom of petition." (A Brief History of Human Rights - The Constitution of the United States of America (1787) and the Bill of Rights (1791).

Only in the nineteenth and twentieth centuries were initiatives put in place with some significance, in the international protection of the human being, namely, in the eradication of the slave trade; treaties designed to improve the conditions of the sick and wounded in the war; the protection of minorities; the creation of the Leagues of Nations; concern for the fair treatment of refugees; the legal status of women, and the creation of the International Labor Organization (ILO), with the humanitarian mission of eradicating poverty and social inequalities, along with concerns for equal opportunities among men.

On October 24, 1945, the United Nations (UN) was created. Its founding principle of the search and maintenance of peace, to rebuild the world on the pillars of freedom and justice, through cooperation between peoples, to strengthen human rights and seek solutions to the economic, social, cultural, or humanitarian problems that occurred after the end of the 2nd World War. A war where many atrocities were committed, 6 million lives were lost among soldiers and civilians, entire cities in ruins and flames in which the Holocaust is an example.

The UN Charter itself proclaims in its Article 55 that the United Nations shall promote "respect for human rights and fundamental freedoms for all, without distinction of 'race', sex, language or religion 'universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex language, or religion.' Article 55 of the Charter to the UN. In Article 56, the member states express their willingness to develop cooperative actions with the UN, both joint and individual, with a view to achieving those objectives (States with different legal and cultural backgrounds, from all regions of the world).

The Universal Declaration of Human Rights (UDHR), signed on 10 December 1948 by the United Nations General Assembly in Paris, emerges as a landmark document in the history of human rights. In the will to regulate international relations, in the repudiation of violence and barbarism between peoples, in the maintenance of peace, in opposition to discrimination and exploitation of peoples, the UDHR established for the first time in history the universal protection of human rights, as an ideal to be attained by all peoples and all nations, in the promotion of respect for these rights and freedoms. The 14 States that signed this Declaration were bound by the acceptance of the precepts that, although they have no coercive value or legal imposition, have ethical and moral value, with the commitment assumed, making them responsible for developing the appropriate legislation in their countries so that these rights could be implemented.

The Universal Declaration of Human Rights, of the United Nations, came to mark the twentieth century, bringing the legal and global recognition of human rights, innovating civil and political rights, namely, the right to life, the right not to be subjected to torture or slavery, the right to freedom of thought, conscience, religion and expression, and very particularly to inspire the constitutions of states and recent democracies. Two decades later, given that the UDHR of 1948 had only the quality of a recommendation (resolution), therefore without a binding character, the States needed to create other instruments.

At the United Nations Assembly of 16 December 1966, two multilateral treaties were concluded which recognized and strengthened the rights and duties of the UDHR; more articles were added extending the number of rights, giving them greater protection, surpassing the Fundamental Declaration itself. These Treaties are the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), which have made human rights mandatory and binding precepts of the signatory States.

The ICCPR is a Covenant that reinforces civil (individual freedoms) and political (access to justice and political participation) rights. The ICESCR has established the human rights - economic, social, and cultural - that must be implemented in the long term, in a progressive and programmatic way, whose duty to comply with them is addressed to the States themselves.

The principles of the UDHR are present in almost all humanitarian documents, such as the International Convention on the Elimination of All Forms of Racial Discrimination, Convention on the Elimination of All Forms of Discrimination Against Women, International Convention on the Rights of the Child, Convention against Torture and Other Cruel Treatment or Punishment, Inhuman or Degrading, among many others." (Universal Declaration of Human Rights). It was up to the signatory States to transpose into the domestic legal order of these States, producing new legislation, adapting the existing one and giving it effective application for these norms to be respected. Failure to comply with the rules, whether by acts or omissions, puts States in a situation where they must justify themselves before the International Court of Justice (ICJ).

### 3.2 – FUNDAMENTAL CONCEPTS

#### Freedom of Expression

Communication is a fundamental process for human interaction. To this day, there is no certainty about how primitive men began to communicate with each other, whether by shouting, whether by grunts, whether by gestures, or by the combination of these elements. It is also through it that the human being acquires the awareness of himself and of others, internalizes, produces, reproduces, and transmits to others, through language, the behaviors, values, norms, and their meanings, in society and culture, in which he is inserted.

The communicational process is processed through language, namely through expression, oral and written. It has been diversifying, over time and space, inventing new channels, from cave paintings, sound of drums, smoke signals, paper, telegraph, telephone, radio, television, and today with the internet, allows men to communicate with each other, in a faster and easier way.

Communication is the basis of interaction of human relationship, and it is also the foundation of man's right to free thought and free expression. Freedom of thought and freedom of speech are two associated rights, as the two complement each other. However, both have freedom, with a somewhat different nature. Freedom is a concept that contains, an option or self-will and an embarrassment, the conflict with the freedom of another person. One person's freedom ends, when another's freedom begins.

Thought can be defined as the act of thinking, of becoming aware of reflecting or meditating; faculty of conceiving, combining and comparing ideas; particular act of the mind, the result of which is reflection; way of thinking; opinion, point of view; act of meditating and fantasizing. Thought, given its rational nature and exclusive to man, is a manifestation of human subjectivity, a phenomenon reserved for the mind of the individual himself. In this way it can be considered or represented, as a non-action in the sense that it does not directly affect others, except, when manifested or expressed, by an action of communication (speaking, writing, acting, etc.).

Expression is a concrete action, a communication, an objective manifestation of thought, since the nature of interaction is always in relation to the other, that is, expression is the external and objective manifestation of our thought, about others. Freedom of expression is not absolute, because it can be limited in its action, when in its full exercise it runs the risk of colliding with other individual freedoms, namely the right to honor, moral integrity, image, good name and reputation.



Freedom of expression "is the right of anyone to freely express opinions, ideas and personal thoughts, without fear of retaliation or censure by the government or other members of society. It is a fundamental concept in modern democracies, in which censorship has no existence (Cabral, 2010). Freedom of thought and expression are the two main vectors of representative democracies, which are in line with other rights: the right to information, the right to contest to the extent that, for citizens to participate in the choice of a government, they must be able to access information or ideas, publicly expressed - public opinion, contest them, if that is your will and make your judgment, about them so that you can make a choice, namely a choice in the context of elections.

Freedom of expression is a legally protected right in democratic societies, in fact it is what legitimizes them, and it is precepted in Article 19 of the Universal Declaration of Human Rights of 1948. Every individual has the right to freedom of opinion and expression, which implies the right not to be disturbed by his opinions and to seek, receive and disseminate, without regard to borders, information, and ideas by any means of expression. (Universal Declaration of Human Rights). Everyone has the right to freely express and disseminate his thoughts by word, image, or any other means, as well as the right to inform, to be informed and to be informed, without hindrance or discrimination.

### Privacy

The concept of privacy was born in the old philosophy, with the distinctions between the public and private domains. In ancient Greece, the interest of the state was superior to the private interest. With the decline of Greek political life after the Macedonian invasion, philosophical interest shifted from public to private life, thus valuing the intimacy of the citizen. With the decline of feudal society, in which isolation was the privilege of the few, privacy began to be extended to all, as an element of promoting equal treatment among citizens and social parity. In America and Europe, until the first half of the nineteenth century, the defense of the right to privacy was confused with that of private property and honor, but from the second half of the nineteenth century the protection of privacy received new contours.

In the twentieth century, technological innovations provoked sudden changes in the concept of privacy, raising the risk of violation. The desire to get information about people has become growing. (Navarro, 2014) In 1948 came the American Declaration of the Rights and Duties of Man, international protection of the right to privacy, which in Article 5, provides the following: "every person has the right to the protection of the law against abusive attacks on his honor, his reputation and his private and family life." Second, Sampaio, (1998), in the same year, was approved by the General Assembly of the United Nations on December 10, the Universal Declaration of Human Rights, which stated in its article 12, that "no one shall be the object of arbitrary interference in his private life, in his family, in his home or in his correspondence, nor of attacks on his honor or reputation. Everyone has the right to the protection of the law against such interference or attack."

### Ethics

According to Du Mont (1991), ethics aims to establish principles of human behavior that help people choose alternative forms of action. These considerations lead to the definitions of ethics and morals, instigating us to refer to deontology as the study of the codes or ethics of the professions. Targino (2006, p. 135) states that the definitions of ethics originate from the "Greek term *ethos*, as the etymology suggests, is the part of philosophy that deals with reflection on customs, encompassing the guidelines". While the moral "term of the Latin *mores* refers to the acts and customs per se, that is, to the set of objective norms of conduct, changeable in time and space".

According to Sá (2007), the word ethics is sometimes associated with the sense of morality, but not always adequately. It has also been understood as the science of human conduct towards being and its fellow men, to study the action of men and their considerations of value. In this research, we emphasize its importance for justice professionals, highlighting the ethical performance in the context of today's society and, mainly, with regard to their social responsibility.

In order to the theoretical foundation of the study, we address the theme of professional ethics linked to the code of ethics, studied by deontology that, according to Targino (2006, p.135) "comes from the Greek *deontos*, duty; *logos*, speech or treatise, etymologically equivalent to treatise or science of duty."

### Social Responsibility

For Du Mont (1991), social responsibility is an ethical concept that involves notions of change, of how human needs should be met. In addition, the author emphasizes the interest in the social dimensions of the information service, which has to do with improving the quality of life. Organizations around the world have considered themselves socially responsible for several decades. Social responsibility gained greater prominence from the 90s, with a greater influence of society, in the media and NGOs, that is, in the organizational world.

Apparently, it felt the need to pass a positive corporate image, in order to make up for lost time. Although the debates and the concept is widely used, social responsibility is still confused with welfare, which assumes a personal character represented by donations or by the creation of philanthropic foundations, as Cajazeiras (2006, p. 13) shows, "another conception of social responsibility closely linked to the idea of donation – the philanthropic phase".

Social responsibility goes beyond the paradigm of welfare, which in a certain way limits the performance, repercussion, and accompaniment by society. This change stems from industrial advances, globalization and the intense flow of information and technologies, causing the degradation of quality of life, the intensification of environmental problems and the precariousness of labor relations. With this, society began to develop attitudes to solve its problems and the upper echelons to adhere to social responsibility, often pressured by the consumer code.

Thus, the social responsibility of judicial institutions is directed to act in an ethical and transparent way, with attitudes that revert to improving the quality of life of the citizens in which they are inserted, even mitigating environmental problems (Veloso, 2006). Acting with social responsibility is not just acting in the marketing of the institution. It is to go beyond interests that aim at personal or group interests, because any institution that considers itself responsible, must have the capacity to meet the interests of the different parties – state, employees, service providers, citizens, community, government, institutions and environment.

### Democracy

Democracy is the **political regime** in which sovereignty is **exercised by the people**. The word democracy originates from the Greek *demokratia* which is composed of *demos* (meaning people) and *kratos* (meaning power). In this political system, power is exercised by the people through universal suffrage. It is a regime of government in which all important political decisions are with the people, who **elect their representatives by vote**. It is a regime of government that can exist in the presidential system, where the president is the greatest representative of the people, or in the parliamentary system, where there is the president elected by the people and the prime minister who makes the main political decisions.

Democracy is a regime of government that can exist as well, in the republican system, or in the monarchical system, where there is the indication of the prime minister who actually rules. Democracy has principles that protect human freedom and is based on majority rule, associated with individual and minority rights. One of the main functions of democracy is the protection of fundamental human rights, such as freedoms of expression, religion, legal protection, and opportunities for participation in the political, economic, and cultural life of society. Citizens have the express rights, and the duties to participate in the political system that will protect their rights and their freedom.

The concept of democracy evolved over time, and from 1688 in England, democracy was based on freedom of discussion within parliament. According to some eighteenth-century philosophers and thinkers, democracy was the right of the people to choose and control the government of a nation. In some countries, the evolution of democracy occurred very quickly, as in the case of Portugal and Spain. Despite this, this rapid evolution has created political insecurity. In countries such as England and France, a slow evolution of democracy has resulted in the development of stable political structures.

Social democracy is the designation of political parties and currents with Marxist tendencies and that arose before the First World War. This type of political ideology is based on Marxism and principles such as equality and social justice, solidarity, and freedom. Social Democracy proposed a change of capitalist society, through gradual and never revolutionary methods, according to the norms of the parliamentary and democratic system.

Ancient Greece was the cradle of democracy, where mainly in Athens government was exercised by all free men. At that time, individuals were elected or raffles were made for the different offices. In Athenian democracy, there were popular assemblies, where proposals were presented, and free citizens could vote.

Racial democracy is directly related to the problem of racism and discrimination and suggests that Brazil has managed to deal with and solve these problems in a way that other countries (such as the United States) have not. Racial democracy addresses the relations between different races and ethnicities in Brazil. Democracy can be direct or pure democracy when the people express their will through direct voting. Representative or indirect democracy the people express their will by electing representatives who make the decisions on their behalf.

The main differences between democracy and dictatorship are:

- **Election model** - in a democracy, elections are direct, that is, the people themselves vote. In dictatorship, elections are indirect, in which the rulers are chosen through an electoral college.
- **Type of state - in democracy, the type of state is democratic, while in a dictatorship the state is authoritarian and totalitarian.**
- **Division of powers** - in democracy there is division of powers. The legislative, executive and judiciary function independently of each other. In dictatorship, powers are concentrated in the hands of a single person or group.
- **Protection of rights** - a democratic state protects and ensures the rights of citizens, as well as constantly legislating new rights. In a dictatorship, rights are often disrespected.
- **Popular demonstrations** - popular demonstrations are common in democracy, taking into account freedom of expression. A dictatorial government often uses censorship to prevent popular demonstrations, news, or any kind of broadcasting contrary to its ideals.

#### Non-Democracy / Dictatorship

The Dictatorship is one of the non-democratic or anti-democratic regimes, that is, governments are managed by a person or political entity where there is no popular participation, or in which this participation occurs in a very restricted way. In the dictatorship, power is only in one body, unlike what happens in democracy, where power is in various organs, such as the legislative, the executive and the judicial. Dictatorship is a form of authoritarianism.

A government is said to be democratic when it is exercised with the consent of the governed, and dictatorial, the opposite. A government is said to be totalitarian when it exerts influence over broad aspects of citizens' lives and behavior, and liberal, the opposite. It happens, however, that totalitarian regimes often exhibit dictatorial characteristics, and dictatorial regimes, totalitarian characteristics. The establishment of a modern dictatorship usually takes place via a coup d'état.

In this sense, one can also understand dictatorship, as a regime where the ruler brings together the executive, legislative and judicial powers. Thus, the dictator controls the most important sectors of his country, to legitimize his position. It is important to remember that throughout history, the term "dictatorship" has been used to characterize different forms of political organization (Ancient Rome, Revolutionary France). According to Karina Vanderlei Silva and Maciel Henrique Silva, (2006), it can be pointed out as common elements in contemporary dictatorships: the curtailment of individual political rights, wide use of force by the State and the strengthening of executive power to the detriment of other powers.

In antiquity, when the Roman Republic was faced with emergency situations, a dictator was appointed by the consuls to assume power until the situation returned to normal.

The powers conferred on the dictator were total, but even so, the dictator was answerable for his acts before the law, needing to justify them after the end of the period of the dictatorship. Dictatorships could not last more than six months. In cases of internal or external danger, the state of *tumultus* (equivalent to the "state of siege" of modern times) was proclaimed, all public guarantees were suspended, placing all classes at the disposal of the state. In such an emergency, it was incumbent upon any of the consuls to appoint a *dictator* for a maximum period of six months; an appointment which usually fell to the other consul. The term dictatorship comes from this title given to magistrates. The dictator was invested with the power of *imperium*, with unlimited authority, entirely irresponsible, superseding absolutely all the magistracies, respecting only the sacred prerogatives of the tribunes of the plebs. The institution of the dictatorship, as an exceptional magistracy, was justified in the name of public salvation: *salus publica suprema lex est*.

However, after the second century BC, the Roman dictatorships lost this character of legality, acquiring characteristics like what is meant by dictatorship today.

According to Aristotle and Plato, the mark of tyranny is illegality, that is, "the violation of laws and rules pre-stipulated by the breaking of the legitimacy of power; once in charge, the tyrant repeals the legislation in force, superimposing it with rules established according to the conveniences for the perpetuation of this power." An example of this are the descriptions of tyrannies in Sicily and ancient Greece, whose characteristics resemble the actions taken by modern dictatorships.

According to Plato and Aristotle, (2014), "tyrants are dictators who gain despotic social and political control by the use of force and fraud. Intimidation, terror, and disrespect for civil liberties are among the methods used to seize and maintain power. Succession in this state of lawlessness is always difficult."<sup>1</sup>

Aristotle attributed the relatively short life of tyrannies "to the inherent weakness of systems that use force without the support of law." Machiavelli also came to the same conclusion about tyrannies and their collapse during the successions of tyrants, for "this (tyranny) is the regime that has the shortest duration, and of all, it is the one that has the worst ending," and, in his words, "the fall of tyrannies is due to the unpredictable misadventures of luck."

Modern dictatorial rule almost always results from deep social upheavals, usually brought about by revolutions or wars. There were also many dictatorial regimes that stemmed from the political disputes of the cold war. Dictatorships do not always occur by military coup: they can arise by civil coup d'état or from a group of democratically elected rulers who use the law to preserve power, as happened, for example, in the dictatorship imposed by Adolf Hitler in Nazi Germany.

The coup was unleashed from the structures of government themselves, with the establishment of a state of exception and later, the suppression of the other parties and democratic normality. To find legitimacy, dictatorships rely on caudillo theories, which often affirm the divine destiny of the leader, who is seen as a savior, whose mission is to free his people, or to be considered the father of the poor and oppressed, etc.

Other dictatorships rely on more elaborate theories, using the imposed legislation, often admitting a democracy with political parties, including elections and sometimes even allowing a certain opposition, provided it is controlled. The legal provisions are institutionalized and are so functional, that the party of those who summoned will always win.

Dictatorships always use brute force to stay in power, which is applied systematically and constantly. Another expedient is institutional propaganda, constant political propaganda and saturation, in order to cultivate the personality of the leader, or leaders, or even the country, to maintain the support of public opinion; one of the most efficient ways of imposing a certain system on the population is subliminal propaganda, where mental defenses are not on guard against the information that is entering the collective unconscious. This is done by saturation in all media. Censorship also plays a very important role, as it does not let relevant information reach the public opinion that is being manipulated. In this way, the two extremes are tied: first the environment is saturated with propaganda in favor of the regime, then all bad news that may alter the state of mind favorable to the imposed system is censored.

#### IV. ELEMENTS FOR DEBATE ON ARTIFICIAL INTELLIGENCE IN THE JUSTICE OF THE DEMOCRACY OF THE FUTURE

##### Digital Society

It will not be an exaggeration or glaring misconception to say that the current society is qualified, increasingly, by the adjective digital, where the new information and communication technologies (ICTs) have constant daily influence, configuring themselves as mediators of social relations, the economy and even in the way of producing / disseminating knowledge. There are forms of absorption of knowledge, about users in a ubiquitous way, in which ICTs can be considered, as new forms of Lupton surveillance, (2015, p. 02; p. 189). Digital ICTs play a crucial role in the process of globalization, as a phenomenon characterized by the wide circulation of people, ideas, and habits, which although it has not historically started with technologies, develops at high speed through these De Mul, (2015, p. 106). The growing insertion of Information and Communication Technologies (ICTs) in people's daily lives has promoted a relationship of deep dependence between the two. In this context, everyday actions have become essentially informational, given the need for mediation for their performance.

The digital society is a complex society of technological innovation and communication, in which there is the creation of new environments and changes in the organizational dynamics of people, in the way people understand reality, modifying the form, how they relate to the environment, to other people and how, conceive themselves before their own reality. Both senses can be understood, as arising from the informational revolution, promoted, mainly, from the attempts to understand human intelligence, via computational bases

The works developed by Turing (1950) had a great influence on the studies of the second half of the twentieth century, including Philosophy, mainly for his algorithmic approach to the nature of thought, in which he proposes the thesis, according to which, "to think is to calculate" (Turing, 1950, p. 436). This is that since digital computers operate from calculations and manipulate rules for the organization of symbols, if we consider that thinking consists, in the activity of manipulating symbols, according to a set of logical rules, constituting algorithms, then digital computers could, in principle, think. Once intelligent thinking is understood mechanically, it would be possible to construct mechanical models of the structure and dynamics of this type of thinking. This understanding enabled the development of mechanical models of the mind, which initially generated two strands in Cognitive Science Teixeira, (1998):

- Strong Artificial Intelligence – is one in which mechanical models of the mind, when successful, not only simulate/emulate mental activities, but explain and instantiate such activities.
- Weak Artificial Intelligence – is one in which the model is only an explanatory tool, limited to intelligent mental activity.

The common point of such notions is that both accept the thesis that to simulate is to explain, so as to attribute to mechanical models the value of theories, in which the computer is employed, as a fundamental tool. As for the social sphere, the development of information theory studies has promoted the social changes that we are currently experiencing and that have generated new types of problems, especially those that concern the relationship between action / technology / environment. Given its impact on the academic and social spheres, the approximation between Philosophy and Information Science, and the role of computers in the development of theories, theoretical production occurred concomitantly with technological improvement.

Floridi (2008, p. 3-4), states that during the second half of the twentieth century events such as: the massification of the computer, which promoted the generation of the "personal computer"; the advancement of scientific discoveries due to the use of ICTs; and the emergence of new ways of experiencing the world, from such technologies. These events illustrate the influence of ICTs in various spheres of society (sociological, economic, scientific, and cultural), providing elements for its characterization as an information and knowledge society. According to Floridi (2002, p. 127): "Post-industrial societies live nourished, by information".

ICTs acquire a central role in the characterization of the digital society, to the extent that they are present and related to the person and his well-being, and in their continuous use in everyday situations (e.g., leisure, work, etc.). It constitutes a relationship of dependence, between the person and the ICTs. This relationship is strengthened, according to Floridi, based on the following factors:

- Increase in the power of ICTs, while reducing their cost of production and marketing;
- Improvement of ICTs in their interaction potential (machine-machine and man-machine);
- Emergence of the Age of "zettabytes" (dated 2010).

The factors indicated are responsible for the approximation between people and ICTs, generating a deep relationship of dependence for the performance of routine actions in today's world. Such dependence is based on the digital presence, as a mediator of common actions, such as financial transactions (home banking), the acquisition of products and services (virtual stores, e-commerce), personal and professional interrelationship (via social networks, such as Facebook, Twitter, or dating apps, such as Tinder), access to movies (via streaming, YouTube, Netflix, etc.), urban mobility (via app, Uber, Taxi 99), making calls (using the network, via Skype, WhatsApp), practicing physical activity (RunKeeper, for example), professional activities via SOHO (small office / home office), political organization (via websites or social networks), among others. We can also highlight the situations in which there is no mediation of artifacts connected to the **Internet**, on the part of people, but that require technological mediation on the part of the service to be requested, such as: payment by credit card for face-to-face purchases, biometric systems for the collection of books in libraries, among others.

To understand the influence of ICTs on the constitution and alteration of people's self, the three types of self-highlighted by Floridi (2014, p. 60) are explained:

- **Personal Identity** - refers to "who we are". We live in an era where people spend a great deal of time transmitting information about themselves, interacting digitally with other people, and this is a good example of how ICTs are affecting and shaping people's personal identity.
- **Self-conception** - consists of "who we think we are".
- **Social self** - refers to what we are from the thought of other people.

It is mainly this third notion of self that ICTs have a deeper channel of action in the conception of people's identity, because there is a growing adherence and overvaluation of social networks, illustrated, for example, by the intensification of a "narcissistic culture".

The Web enhances the narcissistic culture, typical of our time, by expanding the forms of celebration of self and self-promotion. Dating sites, in turn, end up encouraging vanity and competition. [...] young people strive to show in their profiles, photos and texts that value them

and promote the increase in the number of people they add as "friends". [...] This type of behavior is justified by a constant search for attention and recognition. The ease of access to information about oneself generated by third parties, fosters self-understanding from others (social self), constitutes a scenario in which people, especially those who correspond to Generation Z, feed the network, with personal information in an intense way.

The greatest of all changes is the transformation of the information and knowledge society into the digital society. The center of work has shifted to 'teleworking - teleworking'. In the societies of developed countries, increasingly, access to good jobs and a professional career will depend on a university degree with remote work, in any location, in a country, in the globalized world. That is, the logical result, since one stopped working in the office and in large urban centers, passed through intellectual work and arrived at telework at home or elsewhere, outside the large urban centers. This last stage represents a break with the past.

- The fact that knowledge and education have been a passport to the achievement of good jobs and a career, has meant above all that in society, companies are no longer the only way for someone to progress in life and have become one of several opportunities available.
- Knowledge has become the capital of developed economies and knowledge workers, which determines the values and norms of society.

The great challenge of developed countries is to maintain the commitment, with the economic performance necessary for organizations and countries to remain competitive. Governance and entrepreneurship contain in themselves the entrepreneurial spirit. They are not antagonistic concepts, nor mutually exclusive. Both are always necessary and at the same time. Both have to be coordinated, that is, both have to work together. No existing organization can survive without innovation and at the same time without being managed.

### Data Science

Data Science is the study of data to extract meaningful insights for organizations. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence and computer engineering to analyze large amounts of data. This analysis helps data scientists ask and answer questions, such as, what happened, why it happened, what will happen, and what can be done with the results.

Data Science is important because it combines tools, methods, and technology to generate meaning based on data. Modern organizations are inundated with data; there is a proliferation of devices that can collect and store information automatically. Online systems and payment portals capture more data in the areas of e-commerce, medicine, finance and all other aspects of human life. We have text, audio, video and image data available in large quantities.

While the term Data Science is not new, the meanings and connotations have changed over time. The word first appeared in the 1960s as an alternative name for statistics. In the late 1990s, computer science professionals formalized the term. One proposed definition for Data Science saw it as a separate field with three aspects: data design, collection, and analysis. It still took another decade for the term to be used outside of academia.

Artificial intelligence and machine learning innovations have made data processing faster and more efficient. The demand of the sector has created an ecosystem of courses, diplomas and positions in the area of Data Science. Due to the cross-functional skill set and the experience required, Data Science shows strong projected growth in the coming decades.

Data Science is used to study data in four ways:

1. **Descriptive analysis** – Descriptive analysis analyzes data to gain insights into what has happened or what is happening in the data environment. It is characterized by data visualizations such as pie charts, bar charts, line charts, tables, or generated narratives. For example, a flight booking service may record data, such as the number of tickets booked per day. Descriptive analysis will reveal booking spikes, drops in bookings and high-performance months for this service.
2. **Diagnostic analysis** – Diagnostic analysis is an in-depth or detailed analysis of data to understand why something happened. It is characterized by techniques such as drill-down, data discovery, data mining, and correlations. Various data operations and transformations can be performed on a given set of data to discover unique patterns in each of these techniques. For example, the flight service can drill down in a particularly high-performance month to better understand the peak of bookings. This can lead to the discovery that many customers visit a particular city to attend an event.
3. **Predictive analytics** – Predictive analytics uses historical data to make accurate predictions about data patterns that may occur in the future. It is characterized by techniques such as machine learning, forecasting, pattern matching, and predictive modeling. In each of these techniques, computers are trained to reverse engineer causality connections in the data. For example, flight service staff can use Data Science to predict flight booking patterns for next year at the beginning of each year. The computer program or algorithm can analyze previous data and predict booking spikes for certain destinations in May. Having anticipated the future travel needs of its customers, the company could start targeted advertising for these cities from February.
4. **Prescriptive analytics** – Prescriptive analytics takes predictive data to a new level. It not only predicts what is likely to happen, but also suggests an optimal response to that outcome. She can analyze the potential implications of different choices and recommend the best plan of action. Prescriptive analysis uses graph analysis, simulation, complex event processing, neural networks, and machine learning recommendation engines.

Going back to the flight booking example, prescriptive analytics can analyze historical marketing campaigns to maximize the advantage of the next booking peak. A data scientist can design booking results for different levels of marketing spend across multiple marketing channels. These data predictions would give the flight booking company more confidence to make its marketing decisions.

Data Science is revolutionizing the way businesses operate. Many companies, regardless of size, need a robust data science strategy to drive growth and maintain a competitive advantage. Some of the key benefits include:

**Uncovering unknown transformative patterns** – Data Science enables companies to discover new patterns and relationships that have the potential to transform the organization. It can reveal low-cost changes in resource management to get the most impact on profit margins. For example, an e-commerce company uses Data Science to find that many customer queries are being generated after business hours. Research reveals that customers are more likely to buy if they receive an immediate response rather than a response on the next business day. By implementing customer service 24 hours a day, seven days a week, the company increases its revenue.

**Innovate new products and solutions** – Data Science can reveal flaws and problems that would otherwise go unnoticed. More insights into purchasing decisions, customer feedback, and business processes can drive innovation in internal operations and external solutions. For example, an online payment solution uses Data Science to collect and analyze customer reviews about the company on social media. The analysis reveals that customers forget their passwords during peak purchase periods and are dissatisfied with the current password recovery system. The company can innovate a better solution and see a significant increase in customer satisfaction.

**Real-time optimization** – It is very challenging for companies, especially large ones, to respond to changing conditions in real time. This can cause significant losses or disruptions to business activity. Data Science can help companies predict change and react optimally to different circumstances. For example, a trucking company uses Data Science to reduce downtime when trucks break. They identify the



routes and change patterns that lead to faster breakdowns and adjust truck schedules. They also set up an inventory of common spare parts that need to be replaced frequently so that trucks can be repaired faster.

A business problem typically starts the Data Science process. A data scientist will work with stakeholders in organizations to understand what the needs are. Once the problem is defined, the data scientist can solve it using the OSEMN Data Science process:

**O: Get data - Data can be** pre-existing, newly acquired, or a data repository that can be downloaded from the Internet. Data scientists can extract data from internal or external databases, the organization's CRM software, logs from web servers, social media, or purchase it from trusted third-party sources.

**S: Suppress data** – Data suppression, or data cleansing, is the process of standardizing the data, according to a predetermined format. It includes, dealing with the absence of data, correcting data errors, and removing any atypical data. Some examples of data deletion are:

- Change all date values to a common default format.
- Correct spelling errors or additional spaces.
- Correct mathematical inaccuracies or remove commas from large numbers.

**E: Explore data** – Data exploration is a preliminary data analysis that is used to plan other data modeling ploys. Data scientists gain an initial understanding of the data using descriptive statistics and data visualization tools. They then explore the data to identify interesting patterns that can be studied or triggered.

**M: Model data** – Software and machine learning algorithms are used to gain deeper insights, predict outcomes, and prescribe the best plan of action. Machine learning techniques, such as association, classification, and clustering, are applied to the training dataset. The model can be tested against predetermined test data to evaluate the accuracy of the results. The data model can be adjusted several times to improve results.

**N: Interpret results** – Data scientists work together with analysts and organizations to convert insights from data into action. They make diagrams, graphs, and tables to represent trends and forecasts. Data summarization helps stakeholders understand and implement results effectively.

Data Science professionals use computer systems to keep up with the Data Science process. The main techniques used by data scientists are:

**Sorting** - Sorting is the ordering of data into specific groups or categories. Computers are trained to identify and classify data. Known datasets are used to create decision algorithms on a computer that quickly processes and categorizes the data. For example:

- Classify products as popular or non-popular.
- Classify insurance applications as high risk or low risk.
- Rate social media comments as positive, negative, or neutral.

Data Science professionals use computer systems to keep up with the Data Science process.

**Regression** - Regression is the method of finding a relationship between two seemingly unrelated data points. The connection is usually modeled around a mathematical formula and represented as a graph or curves. When the value of one data point is known, regression is used to predict the other data point. For example:

- The rate of spread of airborne diseases.
- The relationship between customer satisfaction and the number of employees.
- The relationship between the number of fire stations and the number of people injured as a result of a fire in a given location.

**Clustering** is the method of grouping closely related data to look for patterns and anomalies. Clustering is different from classification because data cannot be accurately classified into fixed categories. Therefore, the data is grouped into more likely relationships. New patterns and relationships can be discovered with clustering. For instance:

- Group customers with similar buying behavior to improve customer service.
- Group network traffic to identify daily usage patterns and identify a network attack more quickly.
- Group articles into several different news categories and use that information to find fake news content.

#### The basic principle behind Data Science techniques

Although the details vary, the underlying principles behind these techniques are:

- Teach a machine to classify data based on a known dataset. For example, sample keywords are provided to the computer with their respective ranking values. "Happy" is positive, while "Hate" is negative.
- Provide unknown data to the machine and allow the device to classify the dataset independently.
- Allow inaccuracies of results and deal with the probability factor of the outcome.

Data Science professionals work with complex technologies such as:

- Artificial intelligence: Machine learning models and related software are used for predictive and prescriptive analytics.
- Cloud computing: Cloud technologies have given data scientists the flexibility and processing power needed for advanced data analytics.
- Internet of Things: IoT refers to various devices that can automatically connect to the Internet. These devices collect data for Data Science initiatives. They generate large amounts of data that can be used for data mining and data extraction.
- Quantum computing: Quantum computers can make complex calculations at high speed. Skilled data scientists use them to create complex quantitative algorithms.

Data Science is an umbrella term for other data-related functions and fields. Let's look at some of them here:

- **Difference between Data Science and Data Analysis** – While the terms can be used interchangeably, data analysis is a subset of Data Science. Data Science is an umbrella term for all aspects of data processing, from collection to modeling and insights. On the other hand, data analysis mainly involves statistics, mathematics, and statistical analysis. It focuses only on data analysis, while Data Science is related to the big picture around organizational data. In most workplaces, data scientists and data analysts work together to achieve common organization goals. A data analyst can spend more time on routine analysis by providing regular reports. A data scientist can design the way data is stored, manipulated, and analyzed. Simply put, a data analyst makes sense of existing data, while a data scientist creates new methods and tools for processing data to be used by analysts.
- **Difference between Data Science and Business Analytics** – While there is an overlap between Data Science and business analytics, the main difference is the use of technology in each area. Data scientists work more closely with data technology than business analysts. Business analysts reconcile business and IT. They define business cases, gather information from stakeholders, or validate solutions. Data scientists, on the other hand, use technology to work with business data. They can write programs, apply machine learning techniques to create models, and develop new algorithms. Data scientists not only understand the problem, but can also create a tool that provides solutions to the problem. It's not uncommon to find business analysts and data scientists working on the same team. Business analysts use the output of data scientists and use it to tell a story that the organization as a whole can understand.
- **Difference between Data Science and Data Engineering** – Data engineers build and maintain the systems that allow data scientists to access and interpret the data. They work more closely with the underlying technology than a data scientist. The role typically involves creating data models, building data pipelines, and overseeing extraction, transformation, and loading (ETL).

Depending on the layout and size of the organization, the data engineer can also manage related infrastructures such as big data storage, transmission, and processing platforms such as Amazon S3. Data scientists use the data that data engineers have processed to create and train predictive models. Data scientists can then hand over the results to analysts for later decision-making.

- **Difference between Data Science and Machine Learning** – Machine learning is the science of training machines to analyze and learn from data in the same way that humans do. It is one of the methods used in Data Science projects to gain automated insights from data. Machine learning engineers specialize in computing, algorithms, and coding skills specific to machine learning methods. Data scientists can use machine learning methods as a tool or work closely with other machine learning engineers to process data.
- **Difference between Data Science and Statistics** - Statistics is a mathematically based area that seeks to collect and interpret quantitative data. In contrast, Data Science is a multidisciplinary framework that uses scientific methods, processes, and systems to extract knowledge from data in various ways. Data scientists use methods from many disciplines, including statistics. However, the areas differ in their processes and in the problems they study.

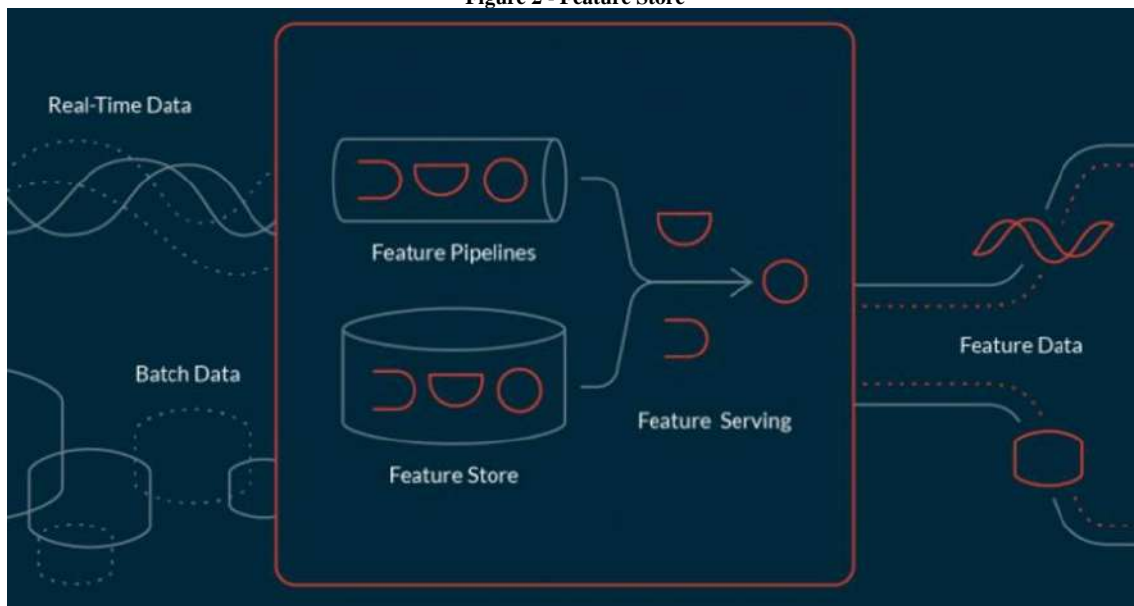
AWS has a number of tools to support data scientists around the world:

- **Physical Data Storage** - For Data Warehousing, [Amazon Redshift](#) can run complex queries on structured or unstructured data. Analysts and data scientists can use [AWS Glue](#) to manage and search for data. AWS Glue automatically creates a unified catalog of all data in the Data Lake, with Meta data attached to make it discoverable.
- **Machine learning** - Amazon [SageMaker](#) is a fully managed machine learning service running on Amazon Elastic Compute Cloud (EC2). It enables users to organize data, create, train, and implement machine learning models, and scale operations.

Analysis:

- Amazon [Athena](#) is an interactive query service that makes it easy to analyze data in [Amazon S3](#) or [Glacier](#). It is fast, serverless technology, and works using standard SQL queries.
- [Amazon Elastic MapReduce \(EMR\)](#) processes big data using servers such as Spark and Hadoop.
- [Amazon Kinesis](#) enables real-time aggregation and processing of broadcast data. It uses web-click sequences, application logs, and telemetry data from IoT devices.
- [Amazon OpenSearch](#) enables searching, analyzing, and viewing Petabytes of data.

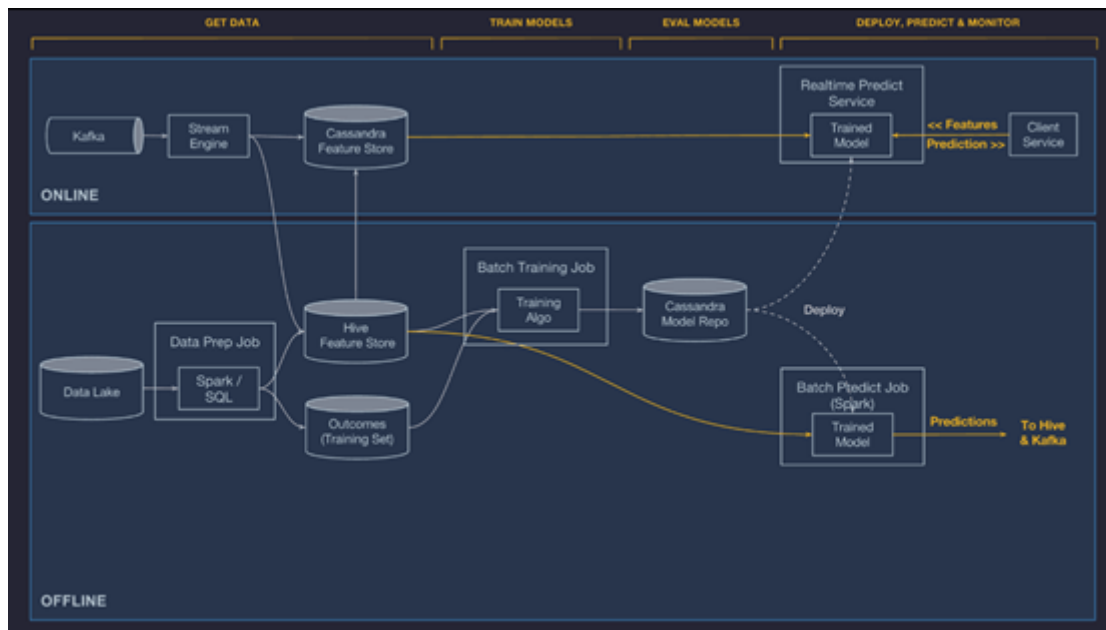
Figure 2 - Feature Store



Source: Microsoft Industry Blogs

**Data can be stored in memory or in a database** with very fast key values. The process itself can be performed across multiple cloud services or on a platform. Here is an example of an online and offline pipeline using data storage (Feature Store). It was designed by Uber as part of its Michelangelo platform:

Figure 3 - Michelangelo Platform of the Uber Project



Source: Microsoft Industry Blogs

### What does a data scientist do?

A data scientist can use several distinct techniques, tools, and technologies as part of the Data Science process. Based on the problem, it chooses the best combinations to get faster and more accurate results.

The role and daily work of a data scientist varies according to the size and requirements of the organization. Although they typically follow the process of Data Science, the details may vary. In larger Data Science teams, a data scientist can work with other analysts, engineers, machine learning specialists, and statistics technicians to ensure that the Data Science process is followed end-to-end and that business goals are achieved.

However, in smaller teams, a data scientist may have more than one role. Based on experience, skills, and academic background, he may perform various roles or have overlapping roles. In this case, your daily responsibilities may include engineering, analysis and machine learning, along with the main methodologies of Data Science.

### Data Scientist Challenges

**Data sources** - Different types of applications and tools generate data in various formats. Data scientists need to clean and prepare the data to make it consistent. This can be tedious and time-consuming.

**Understand the problem of organizations** – Data scientists need to work with various stakeholders and managers of organizations to define the problem to be solved. This can be challenging, especially in large organizations with multiple teams with varying requirements.

**Eliminate deviation** – machine learning tools are not entirely accurate, and as a result, there may be uncertainties or deviations. Deviations are disparities in test data or model prediction behavior in different groups, such as age or income range. For example, if the tool is primarily trained on data from middle-aged people, it may be less accurate when making predictions involving younger and older people. The field of machine learning offers an opportunity to address deviations by detecting and measuring them in the data and model.

Online and offline data have different characteristics. Behind the scenes, offline data is built primarily into structures such as Spark or SQL, where the actual data is stored in a database or as files. While online data may require access to data using APIs for streaming mechanisms such as Kafka, Kinesis, or in-memory key-value databases such as Redis or Cassandra. Working with a data store abstracts this layer, so that when a Data Scientist is looking for data, instead of writing engineering code, they can use a simple API to retrieve the data they need.

One of the main challenges in implementing machine learning (computer) in production arises from the fact that the data being used to test a model in the software development environment (programs) is not the same as the data in the production service layer. Therefore, enabling a set of features (computer and software) consistent between the testing and service tier allows for a smoother deployment process, ensuring that the model tested actually reflects the way, how things will work in production.

In addition to the actual data, the data store maintains additional **meta data** for each resource. For example, a metric that shows the impact of the resource on the model with which it is associated. This information can help Data Scientists tremendously select the capabilities for a new model, allowing them to focus, on those who have achieved a better impact, on similar existing models.

The reality today is that almost all businesses are based on Machine Learning, so the number of projects and resources is growing exponentially. This reduces our ability to have a good comprehensive overview of the available resources, since there are so many. Instead of developing in silos, data storage allows us to share our resources with our colleagues' meta data. It's becoming a common problem in large organizations that different teams end up developing similar solutions, simply because they're not aware of each other's tasks. Data stores fill that gap and allow everyone to share their work and avoid duplication.

To meet guidelines and regulations, especially in cases where the Artificial Intelligence (AI) models generated serve industries such as healthcare, financial services and security, it is important to track the lineage of the algorithms under development. Achieving this requires visibility into the end-to-end flow of data to better understand how the model is generating its results. Because the data is being generated, as part of the process, it is necessary to track the flow of the data generation process. In data storage, you can maintain the lineage of data and a resource. This provides the necessary tracking information, how the data was generated, and provides the insight and reports needed for regulatory compliance.

MLOps is an extension of DevOps where the idea is to apply DevOps principles in machine learning pipelines. The development of a machine learning (computer) pipeline is different from software development (programs), mainly because of the aspect of the data. Model quality isn't just based on code quality. It is also based on the quality of the data and resources that are used to run the model. According to Airbnb, about 60%-80% of Data Scientists' time is spent on creating, training, and testing.

Data stores allow Data Scientists to reuse resources instead of repeatedly rebuilding them for different models, saving valuable time and effort. Data stores automate this process and resources can be triggered through code changes that are sent to Git or by the arrival of new data. This automated feature engineering is an important part of the MLOps concept.

Some of the largest information and communication technology companies that deal extensively with AI have created their own Feature Stores (Uber, Twitter, Google, Netflix, Facebook, Airbnb, etc.). This is a good indication to the rest of the industry of how important it is to use data storage as part of an efficient machine learning pipeline. Given the growing number of AI projects and the complexities associated with putting these projects into production, the industry needs a way to standardize and automate the core of feature engineering. Therefore, it is fair to assume that data storage is positioned to be a basic component of any machine learning pipeline (computer and software).

## Democracy of the Future

### Concept of Participatory Democracy

**Participatory Democracy is the** exercise of political power by the electoral population, through its representatives (Political Parties and or group of citizens), designated by them, with a mandate to act in their name and by their authority, that is, legitimized by popular sovereignty. By the impossibility of the personal participation of all those who are part of a community, by exceeding the proportions of the same, both geographical and in number, It is the act of electing a group or person who represent them and who usually join in institutions called Parliament, House, Congress, Assembly or Courts.

The concept of [Political Participatory Democracy](#) is in everything similar to Representative Democracy, in the model of political system (political parties and election of the representatives of the parties with more votes in the electronic voting machines, always using technologies) in which the main focus is the improvement of the social and economic well-being of the populations. **In structuring decision-making there is always the prior listening of citizens. The rulers are publicly accountable for the results achieved compared to previous periods, in a clear, simple and transparent way.**

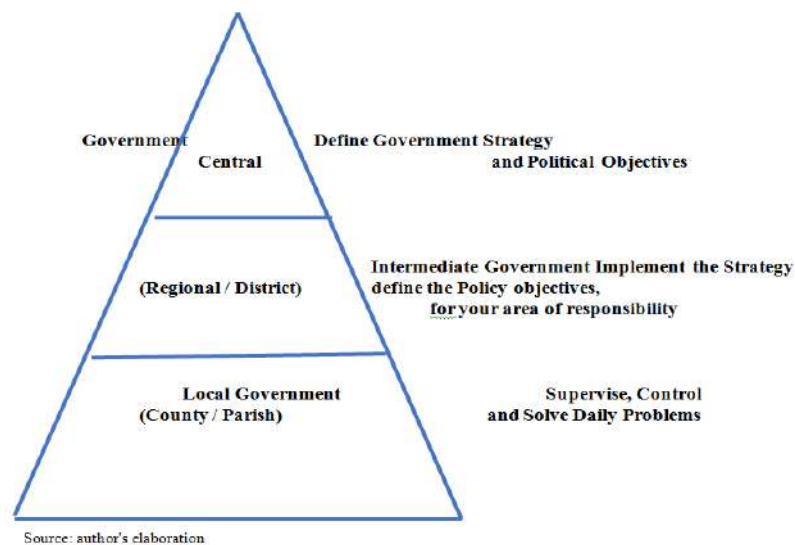
**Periodically, elected officials (legislative, judicial and executive) consult voters about their degree of satisfaction, as well as about the quality of decisions regarding their anxieties and needs.**

Participatory Democracy consists of the powers: Legislative, Judiciary and Executive. The [parliament\(s\)](#) are the meeting place of the representatives. Professional politicians in different positions consult the national, regional and/or local population electronically, whenever there are important decisions with a major impact on their populations. The difference between leaders and leaders, or representatives and represented, ends up bringing politics closer to everyday practices, that is, it brings political life and social life closer to people.

Executive power

What is the first responsibility of the Government of a Country? A country can be defined by three levels of governance/organization. The top Rulers, the Intermediate or Coordinating Rulers and the operational Rulers.

Figure 4 - Responsibilities of Rulers



The main responsibility of the top rulers is the definition of the **strategy and global policy objectives for the social and economic well-being of the country's citizens**, in order to ensure the best results (economic, social, human, infrastructure and informational) with the available national resources (natural and human). They represent the country in the defense of national interests in international events (e.g. UN, EU, NATO, national defense, national tourism, justice, economic development, etc.).

The responsibility of intermediate rulers is to define the political objectives for their area of responsibility, **to allocate and manage the regional/district/county resources, for the social and economic well-being of the citizens of their area of responsibility**, (e.g. health, tourism, economic and social development, justice, etc.), which they have at their disposal to achieve the objectives they have set themselves. The responsibility of the operational rulers (local rulers and or geographical location, e.g. region, parish, etc.) is to ensure the normal functioning of the State organizations, on a day-to-day basis locally, **for the social and economic well-being of the local populations**.

Top rulers rely on summary information (e.g., related to the Covid-19 pandemic, number of deaths, number of infected, number of tests performed, number of recovered, nationally, etc.), while intermediate rulers or coordinators rely on the same information at the level of their area of responsibility (region, district/county) in order to make decisions to improve the allocation and performance of the resources they coordinate. The operational rulers are the same information, but at the local level (e.g. parish), that is, quantified and accurate internal information to solve local day-to-day problems.

The Regional / District Rulers should promote concrete measures of regional / district development, in terms of economic, housing, health and well-being of citizens, etc. to be attractive to live there and not wait for the revenues of the General State Budget. To achieve more revenues, they must increase economic activities, agriculture, number of companies, employment, hospitals, health centers, homes, etc. This is should be proactive and not reactive.



The Regional/District Rulers shall be responsible for the economic, human, infrastructure and social welfare resources of the inhabitants/residents of the region/district/county, such as, schools, district/county hospitals, health centers, roads, agriculture, etc.

The source of the information on which operational rulers rely is 100% internally generated. The origin of the information on which the intermediary or coordinating rulers rely is internal, but also external, since they have contacts with the outside (for example, populations, customers, suppliers, etc.) and that in percentage terms we can be talking about 75% internal and 25% (for example, price comparison between suppliers). The source of information for top rulers is 75% outside (e.g., trends, turmoil, evolution of world politics, political-legal constraints, etc.) and 25% internal (e.g., evaluation of the performance of the Organization (State). Everything else that rulers do or may want to do is based on economic performance and the results obtained for the following years. Even the most sublime governance tasks, such as the assessment of social responsibilities and socio-cultural opportunities, do not escape these assumptions.

Currently there is no time for commonplaces, that is, the rulers worry about their own performance, for the mission they have been elected, distinguish what is essential from the accessory, distinguish what is relevant from what is a waste of time, from what is potentially effective, from what is merely frustrating. The mission of rulers is to work hard, be demanding and take risks, especially top rulers. There are many technologies available, especially information and communication technologies that save a lot of time and work, but do not spare thought.

**The Information of institutional level** - allows the top rulers to observe and evaluate the variables related to the evolution of the environment (global and immediate) and the internal situation, whose purpose is to manage and evaluate the internal performance of the government, the definition and the implementation of the strategy.

**Intermediate level information** – allows intermediate or coordination level governments to allocate and manage the resources of their area of responsibility, that is, to monitor the evolution of the performance of their area (e.g. the evolution of epidemics / diseases, etc.) and the correction of any deviations from the objectives to be achieved.

**Operational level information** – allows operational managers (regional and local) to supervise and control day-to-day activities and tasks, monitor the geographical space under their responsibility.

Characteristics that quality information has:

- ✓ **In the time dimension:**
  - Readiness – be available when it is needed.
  - Acceptance – be up to date when provided.
  - Frequency – be available as many times as necessary and not be lost after its use;
  - Period – reveal its evolution – historical vision.
- ✓ **In the content dimension:**
  - Accuracy – do not contain errors.
  - Relevance – having a purpose.
  - Integrity – all components are present.
  - Concision – contain only what is necessary.
  - Amplitude – refers to the reach of the content.
  - Performance – evaluation of the impact of information on desired results.
- ✓ **In the form dimension:**
  - Clarity – ease of understanding.
  - Detail – degree of detail required.
  - Order – be organized in the necessary sequence.
  - Presentation – have the appropriate format.
- ✓ **Other characteristics that quality information has:**
  - Accessible – accessible to authorized users.
  - Secure – Only authorized users can access.
  - Economic – the value of the information outweighs the cost of producing it;
  - Flexible – be used for more than one purpose or by more than one type of citizens/users.
  - Reliable – the reliability of information depends on the method, how it is acquired and its source.

Social and Economic Welfare

In 1946 the Constitution of the World Health Organization (WHO) was published. It contains, in addition to other definitions, the principles of the WHO:

- **Health is a state of complete physical, mental, and social well-being, and does not consist only in the absence of disease or infirmity;**
- To enjoy the best attainable state of health is one of the fundamental rights of every human being, without distinction of race, religion, political creed, economic or social condition.
- The health of all peoples is essential to achieving peace and security and depends on the closest cooperation of individuals and states.
- The results achieved by each State in the promotion and protection of health are of value to all.
- The uneven development in different countries with regard to health promotion and the fight against diseases, especially contagious diseases, is a common danger.
- The healthy development of the child is of fundamental importance; the ability to live harmoniously in a variable environment is essential to such development.
- The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to achieve the highest degree of health.
- An enlightened public opinion and active cooperation on the part of the public are of paramount importance for the improvement of the health of peoples.
- Governments have responsibility for the health of their peoples, which can only be assumed by the establishment of appropriate sanitary and social measures.

WHO's 13 biggest challenges for the next decade were established in January 2020:

1. **Clean health services:** 1 in 4 health centers in the world does not have clean water.
2. **Climate debate:** The climate crisis is considered a health crisis. More than 80 cities in 50 countries have committed to abide by air quality rules in 2019.
3. **Places of conflict and crises:** countries affected by conflict have the largest disease outbreaks.

4. **Fairer health care:** People living in richer countries have higher life expectancy (18 years longer) than those in poor countries.
5. **Access to medicines:** one third of the world's population does not have access to medicines, vaccines or other health products.
6. **Infectious diseases:** WHO states that there is a need for immunization services and combating the effects of antibiotic resistance.
7. **Epidemics:** more resources are spent on disease outbreaks than on their prevention. Thus, governments should invest in services that keep populations safe.
8. **Dangerous Products:** WHO wants to limit trans-fat consumption by 2023 because of diseases caused by unhealthy diets;
9. **Health workers:** according to the WHO, an additional 18 million health workers will be needed in low-income countries.
10. **Safe adolescents:** car accidents, HIV, suicide, respiratory diseases and violence are the main causes of death of more than 1 million adolescents per year.
11. **Trust:** Fake news, such as the anti-vaccine movement, for example, has contributed to the increase in the number of diseases that could have been prevented.
12. **New technologies:** genetic manipulation and other technologies have come to solve various problems, but their use needs to be managed and regulated.
13. **Medications:** The rampant use of antibiotics has increased the resistance of bacteria.

**The political parties/candidates, present to the voters their Government Program and the team of rulers**, so that there are debates on the **Project of Changes** in legislative, judicial and executive terms, to the voters. During the election campaign they promote global and specific debates, related to the Project of changes that they propose to make for the social and economic well-being of the populations, to enlighten the voters. Electoral voting is electronic from any location and with the use of available technology by the voter.

**The laws of nature are the same for everyone, rich and poor** (e.g., an earthquake does not choose rich and poor) and affects everyone equally. But the laws made by humans are some more equal than others, that is, the laws are made to measure for some and for some (companies and individuals). The rich are richer, and the poor are poorer. Political truth is the lie, and the lie is the political truth. Such a democracy cannot be fair.

People hardly achieve their rights through democracy anywhere in the world. Does this mean that the will of the people cannot be carried out? That democracy cannot be developed. Scholars of the social sciences do not see a solution to the problem of today's democracies and fail to establish any consensus on what a developed democracy should look like. Establishing a developed form of democracy requires discovering a new way to implement the will of the people effectively. To achieve it, one must think outside the current political system.

Equality is an essential value for the progress and advancement of society, because it offers the possibility to every human being that he has the same rights and duties, opportunities and, consequently, that each person can contribute to the whole, **starting from his freedom**, that he can contribute with his work, his effort, their knowledge and solidarity.

Equality is the same treatment, without difference of race, sex, social or economic condition, physical, mental, intellectual or sensory condition or of any kind, where all people have the same rights and duties, and the same opportunities.

Equality **must exist for people before the law** in order to achieve equality or equitable treatment that seeks to observe the social sphere and existential conditions of every citizen. Equality **is today an essential value for the real progress** of society.

Citizenship presupposes giving everyone equal treatment. It's a way to open equal opportunities for those who look "different." Citizenship is forged in the consciousness of the SELF, it is sedimented in the duties and values inherited, it is strengthened in the exercise of conquered rights, it expands in the insertion of the individual in the social space that belongs to him. A full citizen is one who recognizes himself, as a whole being, as a capable being, despite the possible "failure" or "deficit" that he carries, whether in the physical, intellectual, social, cultural, or economic sphere.

## Artificial intelligence

### Philosophical premises

Although research into artificial intelligence began in 1956, its philosophical roots go back in time. The question of whether a machine can think it has a long history. It is closely related to the differences between dualistic and materialistic views. From the point of view of dualism, thought is not material (or, at least, has no material properties), so the mind cannot be explained only with the help of physical concepts. On the other hand, materialism says that the mind can be explained physically, thus leaving the possibility of the existence of artificially created minds.

The philosopher, Alfred Iyer, (1936), addressed a common philosophical question about other minds: How do we know that other people have the same conscious experience as we do? In his book *Language, Truth and Logic*, he proposed an algorithm for recognizing a conscious person and an unconscious machine: one that cannot pass one of the empirical tests, according to which the presence or absence of consciousness is determined (Swiechowski, 2020). This statement is very similar to the Turing test, but it is not known for sure whether Iyer's popular philosophical classics were known from Turing.

Although more than 50 years have passed, the Turing test has not lost its meaning. But currently, artificial intelligence researchers are hardly committed to solving the problem of passing the Turing test, believing that it is far more important to study the fundamental principles of intelligence than to duplicate one of the bearers of natural intelligence. In particular, the problem of "artificial flight" was only successfully solved after the Wright brothers and other researchers stopped imitating birds and began studying aerodynamics. In scientific and technical work on aeronautics, the objective of this area of knowledge is not defined as "the creation of machines that, in their flight, resemble pigeons so much that they can even deceive real birds."

### Role of Artificial Intelligence (AI)

Second, Builtin, (2022), artificial intelligence is the property of intelligent systems to perform creative functions that are traditionally considered a person's prerogative (not to be confused with artificial consciousness, IP); science and technology of creating intelligent machines, especially intelligent computer programs.

AI is related to the similar goal of using computers to understand human intelligence, but it is not necessarily limited to biologically plausible methods. Existing intelligent systems today have narrow application areas. For example, programs that can beat a person in chess can't answer questions, etc.

According to Dartmouth, (1956), the definition of artificial intelligence is not directly related to the understanding of intelligence in humans. AI researchers are free to use methods that are not observed in humans if necessary to solve specific problems. He points out that the problem is that we can't determine which computational procedures we want to call intelligent. We understand some of the mechanisms of intelligence and we don't understand the others. Therefore, within the framework of this science, intelligence is understood only as the computational component of the ability to achieve goals in the world. At the same time, there is a point of view, according to which intelligence can only be a biological phenomenon.

In English, the expression artificial intelligence does not have an anthropomorphic connotation: the word intelligence in the context used means rather "the ability to reason" instead of "intelligence" (for which there is an analogue of the intellect. The following definitions of artificial intelligence are given:

- **Scientific direction** – within which the hardware problems or software modelling of those types of human activity traditionally considered intellectual are defined and solved.
  - **The ownership of intelligent systems to perform (creative) functions** - which are traditionally considered the prerogative of a person. At the same time, an intelligent system is a technical or software system capable of solving problems traditionally considered creative, belonging to a specific area, knowledge about which is stored in the memory of such a system.
  - The structure of an intelligent system includes three main blocks - a **knowledge base, a solver, and an intelligent interface** that allows it to communicate with a computer without special programs for data entry.
- **Direction information technologies** - is the task to recreate intelligent reasoning and actions using computer systems and other artificial devices.
  - The ability of the computer system to correctly interpret external data - learn from that data and use the acquired knowledge to achieve specific objectives and objectives through flexible adaptation.

One of the definitions of intelligence, common to humans and "machines", can be formulated as follows: "Intelligence is the ability of a system to create, in the course of self-learning, programs (mainly heuristics) to solve problems of a certain class of complexity and to solve these problems" (Business Horizons, 2019).

Second, Anglin, (1995), the history of artificial intelligence, as a doctrine of the development of modern science and technology for the creation of intelligent machines, has its roots in early philosophical studies of human nature and in the process of knowing the world, later expanded by neurophysiologists and psychologists in the form of a series of theories about the work of the human brain and thought. The modern phase in the development of artificial intelligence science is the development of the mathematical theory of computation – the theory of algorithms – and the creation of computers.

As an applied science, "Artificial Intelligence" has theoretical and experimental parts. In practice, the problem of the creation of "Artificial Intelligence" lies in the intersection of information technologies (software) with computer technology (hardware) and with neurophysiology, cognitive and behavioral psychology. The Philosophy of Artificial Intelligence serves as a theoretical basis, but only with the appearance of significant results did the theory acquire an independent meaning. So far, the theory and practice of "Artificial Intelligence" is distinguished from mathematical, algorithmic, robotic, physiological, and other theoretical techniques and experimental techniques that have an independent meaning.

The largest number of young innovative companies developing AI are in the US, Europe, China, Israel, Britain and Canada. Among the companies that have filed the highest number of patents in the field of AI are IBM, Microsoft, Toshiba, Samsung, NEC, Fujitsu, Hitachi, Panasonic, Canon Deutsche Welle, (2019).

#### Turing test

The Turing test is an empirical test, which was proposed by Alan Turing in the article "Computing Machines and the Mind", (1950), in the philosophical journal Mind. Turing set out to determine whether a machine can think (The Alan Turing Internet Scrapbook, 1950).

The standard interpretation of this test is as follows: "A person interacts with a computer and a person. Based on the answers to the questions, he should determine who he is talking to: a person or a computer program. The task of a computer program is to induce a person to make the wrong choice" (Swiechowski, 2020).

All test takers can't see each other. If the judge cannot say for sure which of the interlocutors is a human being, then the machine is considered to have passed the test. To test the machine's intelligence, not its ability to recognize speech, the conversation is conducted in a "text-only" mode, for example, using a keyboard and a screen (intermediate computer). Correspondence should be made at controlled intervals, so that the judge cannot draw conclusions based on the speed of the responses. In Turing's time, computers responded more slowly than humans. Now this rule is also necessary, because they react much faster than humans.

Turing has been particularly concerned about the problem of machine intelligence since at least 1941. One of the first mentions of "computer intelligence" was made in 1947. In his "Intelligent Machines" speech, Turing explored the question of whether a machine could detect intelligent behaviors, and in that study suggested what could be considered the precursor to his future research: "It is not difficult to design a machine that plays chess well. Now let's take three people-subjects of the experience. A, B and C. Let A and C not play chess well, and B the machine operator. Two quarters are used, as well as some mechanism for transmitting messages about movements. Competitor C plays with A or a machine. Participant C may have difficulty answering who is playing with (Turing, 1950)."

Turing began his article with the statement, "I propose to consider the question 'Can machines think?'" It stresses that the traditional approach to this question is first to define the concepts of "machine" and "intelligence". Turing, however, took a different path; instead, he replaced the original question with another, "which is closely related to the original and is formulated relatively unambiguously." Essentially, it proposes replacing the question "Do machines think?" with the question "Can machines do what we (as thinking creatures) can do?" The advantage of the new question, according to Turing, is that it draws "a clear line between a person's physical and intellectual capacities" (Turing, 1950).

In the same report, Turing later proposes an alternative "equivalent" formulation, involving a judge who only speaks to a computer and a person. Although none of these formulations exactly correspond to the version of the Turing test that is best known today, in 1952 the scientist proposed a third. In this version of the test, which Turing discussed on BBC Radio, the jury asks for a computer, and the role of the computer is to make a significant part of the jury believe that it is human.

Second, Güzele, (2008), there are four major turning points in the history of the Turing test:

- The publication of Computing Machines and the Mind in 1950,
- The report on the creation of Eliza by Joseph Weizenbaum in 1966,
- The creation of Parry by Kenneth Colby (1972);
- Turing Colloquium in 1990.

Eliza's role is to examine the comments entered by the user for the presence of keywords. If a **keyword is found**, the rule is applied, whereby the user's comment is converted and a **result phrase is returned**. If the keyword is not found, Eliza returns a general response to the user or repeats one of the previous comments. In addition, Weizenbaum programmed Eliza to mimic the behavior of a client-centered therapist. This allows Eliza to "pretend she knows almost nothing about the real world." By using these methods, Weizenbaum's program could have misled some people who thought they were talking to a real person, and some found it "very difficult to convince Eliza [...] who were not human. On this basis, some argue that Eliza is one of the programs (possibly the first) that were able to pass the Turing test. However, this claim is highly controversial, since people who "ask the questions" were instructed to think that a true psychotherapist would talk to them, and were unaware that they could talk to a computer.

Parry - has been described as "Eliza with Opinions": the program attempted to model the behavior of a paranoid schizophrenic using a similar (if not more advanced) approach. To test the program, Parry was tested in the early '70s using a modification of the Turing test. A team of experienced psychiatrists analyzed a group of real patients and Parry-controlled computers using a TTY. Later, 33 psychiatrists were shown the transcripts of the interviews. Next, both teams were asked to determine which of the "patients" is a human and which is a computer program. Psychiatrists could only make the right decision in 48% of cases. This value is consistent with the probability of random

selection. These experiments were not Turing tests in the full sense, since, to make a decision, this test requires that questions can be asked interactively, rather than reading the transcript of past conversation (Güzeldere, 2008).

### Approaches to AI

The symbolic approach was the first in the era of digital machines, since it was after the creation of Lisp, (the first language for symbolic computing), that it allowed to begin in practice to implement these means of intelligence. The symbolic approach allowed him to operate with formalized representations and their meanings.

The success and effectiveness of solving new problems depended on the ability to highlight only essential information, which required flexibility in abstraction methods. While an ordinary program establishes one of its ways of interpreting data, it seems biased and purely mechanical. An intellectual problem in this case is only solved by a person, an analyst, or a programmer, without knowing how to entrust this to a machine. As a result, a single abstraction model, a system of entities and constructive algorithms is created.

Second, Haugeland, (1985), computer algebra (unlike numerical methods) develops and implements analytical methods to solve mathematical problems in a computer and assumes that the initial data, like the results of the solution, are formulated analytically (symbolically). When analyzing a mathematical model, the result can be general and particular analytical solutions of the mathematical problem formulated and its interpretation.

The logical approach to creating artificial intelligence systems is based on modeling reasoning. The theoretical basis is logic, which can be illustrated using Prolog's language and logic programming system for these purposes. Programs written in the Prolog language represent sets of facts and rules of inference without rigidly specifying an algorithm as a sequence of actions that lead to the desired result.

In the early 1990s, the agent-based approach, or the approach based on the use of intelligent (rational) agents, emerged. According to this approach, intelligence is the computational part (roughly speaking, planning) of the ability to achieve the goals set for an intelligent machine. Such a machine itself will be an intelligent agent that perceives the world around it with the help of sensors and is able to influence objects in the environment with the help of executive mechanisms. This approach focuses on the methods and algorithms that will help an intelligent agent survive in the environment while performing its task. An agent is everything that can be considered as perceiving its environment with the help of **sensors** and acting in this environment with the help of executive mechanisms, Shoham, (1990).

Rassel, (1990), defines the concept of an agent, unlike a simple object, is endowed with various mental constructions, such as faith, responsibilities, and abilities. Therefore, various mental categories will appear in the programming language, and the semantics of programming will be associated with the semantics of mental constructs.

### Related concepts

- **An object** - A programmatic entity of a given structure and mechanisms concretized to interact with other objects through the transmission of messages. Messages are formed and sent in response to incoming messages. Messages are generated by data-driven procedures.
- **Actor** - The essence of the software of a given structure and mechanisms of interaction. Contains data and procedures. It has encapsulation, relationships, inheritance and can generate messages.
- **Agent** - A programmatic entity to perform assigned tasks. It has behavior, namely: it interacts with a complex and dynamically developing external environment, capable of being modified or modified by other agents depending on specific conditions. Interaction means perception of the dynamics of the environment; actions that change the environment; reasoning to interpret observed phenomena, solve problems, draw conclusions and determine actions.

Depending on the degree of freedom of the environment, implying the presence of the corresponding type of agent in it, the environments are subdivided into:

- **Closed** - A deterministic or probabilistic finite description of the entire environment, which is known by the agent a priori or through research.
- **Open** - A deterministic or probabilistic finite description of the local area of the environment in which the agent is located and in which he knows a priori or resorts to investigation.
- **Transformable** - Environments in dynamic development, the developing structure of which it is the agent.

The hybrid approach assumes that only a synergistic combination of neural and symbolic models achieves the full range of cognitive and computational capabilities. For example, expert inference rules can be generated by neural networks, and generative rules are obtained through statistical learning. Proponents of this approach believe that hybrid systems (software) will be significantly more powerful than the sum of different concepts separately.

**Intelligent hybrid system (HIS)** is generally understood as a system in which more than one method of mimicking human intellectual activity is used to solve a problem. Thus, HIS is a combination of: analytical models, expert systems, artificial neural networks, fuzzy systems, genetic algorithms, statistical simulation models.

Second, Wermter, (2000), the interdisciplinarity of "intelligent hybrid systems" brings together scientists and experts who study the applicability of not one, but of various methods, usually of different classes, to solve control and design problems.

According to Castillo, (2006), the term "intelligent hybrid systems" appeared in 1992. The authors put in it the meaning of hybrids of intelligent methods, such as specialized systems, neural networks, and genetic algorithms. The specialized systems represented symbolic and artificial neural networks and genetic algorithms – adaptive methods of artificial intelligence. However, the term referred to a fairly narrow area of integration – expert systems and neural networks. The following are several interpretations of this area of integration according to other authors:

- The "hybrid approach" assumes that only a synergistic combination of neural and symbolic models reaches the full range of cognitive and computational capabilities.
- The term "hybrid" is understood as a system composed of two or more integrated subsystems (softwares), each of which can have different presentation languages and output methods. The subsystems are combined semantically and in effect with each other.
- Scientists at the Centre for Artificial Intelligence at the University of Cranfield (England) define a "hybrid integrated system" as a system that uses more than one information technology. In addition, the technologies cover areas such as knowledge-based systems, connection models and databases. The integration of technologies makes it possible to use the individual power of technology to solve specific parts of the problem. The choice of technologies (software) implemented in a hybrid system depends on the specifics of the problem being solved.
- Experts from the University of Sunderland (England), members of the HIS (Hybrid Intelligent Systems) group, define "intelligent hybrid systems" as large, complex systems that seamlessly integrate traditional knowledge and processing. They can provide the ability to store, search, and manipulate traditional data, knowledge, and technologies. Intelligent hybrid systems (software) will be significantly more powerful than extrapolating concepts from existing systems (Negnevitsky, 2005).



HIS's research objectives include the creation of methods to increase the efficiency, expressive power and inference power of predominantly more complete intelligent systems developed with less development effort than applications (software) using autonomous methods. From a fundamental perspective, HIS can help you understand cognitive mechanisms and patterns.

#### Methods used in AI.

Without pretending to be exhaustive in its description, some of the main methods used in Artificial Intelligence are presented.

- **Symbolic modelling of thought processes** – Looking at the history of AI, one can highlight an area as extensive as modelling reasoning. For many years, the development of this science has been going down this path, and it is now one of the most developed areas in modern AI. Modeling reasoning implies the creation of symbolic systems, at the input of which a given task is defined, and at the exit, their solution is necessary. As a rule, the proposed problem is already formalized, that is, translated into a mathematical form, but either does not have a solution algorithm, or it is very complicated, time-consuming, etc. This area includes theorem proof, decision making and game theory, planning and scheduling, prediction (Diakonov, 2009).
- **Working with natural languages** – An important area is natural language processing, which analyzes the possibilities of understanding, processing, and generating texts in "human" language. Within this direction, the objective of such natural language processing is established, which could acquire knowledge by itself, through the reading of the existing text available on the Internet (Young, 2018). Some direct applications of natural language processing include information retrieval (including deep text analysis) and machine translation.
- **Representation and use of knowledge** - The direction of knowledge engineering combines the tasks of obtaining knowledge from simple information, its systematization and use. This direction is historically associated with the creation of specialized systems – programs that use specialized knowledge bases to draw reliable conclusions about any problem (Gorban, 2015).

The production of knowledge from data is one of the basic problems of data extraction. There are several approaches to solving this problem, including those based on neural network technology, using procedures to verbalize neural networks.

- **Machine learning** - The problem of machine learning concerns the process of independent acquisition of knowledge by an intelligent system in the process of functioning. This direction has been central since the beginning of the development of AI. In 1956, at the Dortmund Summer Conference, Ray Solomonoff wrote a paper on the unsupervised probabilistic machine, calling it the "Inductive Inference Machine".
- **Unsupervised learning** - This allows you to recognize patterns in the input flow. Supervised learning also includes regression classification and analysis. Sorting is used to determine which category an image belongs to. Regression analysis is used to find a continuous function in a series of numerical input/output patterns from which output can be predicted. In training, the agent is rewarded for good answers and punished for bad ones. They can be analyzed from a decision theory perspective using concepts such as utility. The mathematical analysis of machine learning algorithms is a branch of theoretical computer science known as Computational Learning Theory (Witten, 2005).

A large class of image recognition problems belong to the field of machine learning. For example, this is character recognition, handwriting, speech, text analysis. Many problems are successfully solved using biological modeling. Computer vision is especially of reference, which is also associated with robotics.

- **Biological Simulation of Artificial Intelligence - Differs from the** understanding of artificial intelligence according to John McCarthy when one proceeds from the premise that artificial systems are not obliged to repeat in their structure and to function the structure and processes that occur in it inherent in biological systems. Proponents of this approach believe that the phenomena of human behavior, its ability to learn and adapt is a consequence of the biological structure and characteristics of its functioning (Russell, 2003).

This includes several areas. Neural networks are used to solve complex and fuzzy problems, such as recognizing geometric shapes or grouping objects. The genetic approach is based on the idea that an algorithm can become more efficient if it contracts better features from other algorithms ("parents") (Conrad, 2005). A relatively new approach, where the task is to create a stand-alone program – an agent that interacts with the external environment, is called an agent-based approach.

- **Robotics** - The fields of robotics and artificial intelligence are closely related to each other. The integration of these two sciences, the creation of intelligent robots, constitutes another direction of AI. Intelligence is needed for robots to manipulate objects, navigate with location problems (locate, study nearby areas), and plan movement (such as reaching a target). Examples of intelligent robotics include Pleo robot toys, AIBO, QRIO.
- **Machine Creativity - The nature of human creativity** is even less studied than the nature of intelligence. However, this area exists, and here the problems of computer writing, literary works (often - poems or fairy tales), artistic creations are placed. The creation of realistic images is widely used in the film and gaming industry.

Separately, the study of the problems of technical creativity of artificial intelligence systems stands out. The theory of inventive problem solving, proposed in 1946 by G. S. Altshuller, laid the foundation for such an investigation.

Adding this capability to any intelligent system allows you to clearly demonstrate what exactly the system perceives and how it understands it. Adding noise instead of lack of information or filtering noise with the knowledge available in the system produces concrete images of abstract knowledge that are easily perceived by a person, this is especially useful for intuitive and low-value knowledge, the verification that it is a formal form requires significant mental effort.

There are two directions to the development of AI:

- Solving problems related to the approach of specialized AI systems to human capabilities, and their integration, which is implemented by human nature (improvement of Intellect);
- Creation of artificial intelligence, representing the integration of AI systems already created in a single system capable of solving the problems of humanity (strong and weak artificial intelligence).

But right now, in the realm of artificial intelligence, there is an involvement of many thematic areas that are more of a practical relationship with AI, rather than fundamental. Many approaches have been tried, but no research group has yet addressed the emergence of artificial intelligence. Below are just a few of the most famous developments in the field of AI.

#### Notable AI systems

Some of the most famous AI systems are:

- Deep Blue - developed by IBM, defeated the world chess champion. Kasparov's game against the supercomputer brought no satisfaction to either computer scientists or chess players, and the system was not recognized by Kasparov. The IBM line of supercomputers then emerged in BluGene brute force (molecular modeling) and pyramidal cell system modeling projects at Blue Brain, Switzerland (Morphy, 2011).
- AlphaGo - developed by Google DeepMind, won a game against Korean 9 dan pro-Lee Sedol.

- Watson is a promising IBM development, able to perceive human speech and perform probabilistic research using a large number of algorithms. To demonstrate the work, Watson participated in the American game "Jeopardy!"
- MYCIN is one of the first specialized systems that could diagnose a small set of diseases, often as accurately as doctors.
- 20Q - a project based on the ideas of AI, based on the classic game "20 Questions". It became very popular after appearing on the Internet in 20q.net.
- Voice recognition. Systems like Via Voice are able to serve consumers.
- The robots at the annual RoboCup compete in a simplified form of football.

Banks use artificial intelligence (AI) systems in insurance (actuarial mathematics), stock exchange trading, and property management. Pattern recognition methods (including the most complex and specialized ones, as well as neural networks) are widely used in optical and acoustic recognition (including text and speech), medical diagnostics, spam filters, in air defense systems (target determination), as well as to ensure various other national security tasks.

Computer game developers use AI to varying degrees of sophistication. This forms the concept of "Game Artificial Intelligence". The standard tasks of AI in games are to find a path in two-dimensional or three-dimensional space, mimicking the behavior of a combat unit, calculating the correct economic strategy, and so on.

#### Research centers

The largest scientific and research centers in the field of artificial intelligence:

- **United States of America** - the Massachusetts Institute of Technology; the Automatic Intelligence Research Institute
- **Germany** - the German Center for Research in Artificial Intelligence
- **Japan** - the National Institute of Contemporary Industrial Science and Technology (AIST)
- **Russia** - the Scientific Council on the Methodology of Artificial Intelligence of the Russian Academy of Sciences
- **India** - the Indian Institute of Technology in Madras.

#### Programming languages.

The first logical programming language was the Planner language, in which the possibility of automatic output of the result from data was established and gave rules for enumerating options (the combination of which it was called the plan). The planner was used to reduce computational requirements (using backtracking) and provide the ability to display facts without actively using the stack. Then the Prolog language was developed, which did not require an iteration plan and was, in this sense, a simplification of the Planner language (McCarthy, 1958).

The Planner language also gave rise to the QA-4, Popler, Conniver, and QLISP logical programming languages. The programming languages Mercury, Visual Prolog, Oz, and Fril descend from the Prolog language. Based on the Planner language, several alternative logic programming languages have been developed that are not based on the backtracking method.

#### Agent-based approach

Second, Yoav Shoham, (1990), an approach based on intelligent (rational) agents was developed. With this approach, intelligence is the computational part of the ability to achieve the objectives set for an intelligent machine (computer), that is, a computer that perceives the world around it with the help of sensors, being able to influence objects in the external environment with the help of executive mechanisms. This agent-based approach (hereinafter AOP) to programming is a kind of presentation program or programming paradigm, in which the fundamental concepts are the concepts of an agent and its mental behavior, depending on the environment in which it is located. This approach focuses on the methods and algorithms that will help an intelligent agent survive in the environment while performing its task, based on the algorithms to find a path and make decisions.

This new rational programming paradigm of object-oriented programming changed the paradigm of writing procedures for the creation of objects, rational programming changed the paradigm from the creation of information objects to the creation of motivated agents (Shoham, 1990). An agent is everything that can be considered as perceiving its environment with the help of sensors and acting in this environment with the help of executive mechanisms.

For Shoham understands an agent as a software agent. It is based on the theory of artificial intelligence, the concept of which already existed but was vague, and he sets as a goal to transform it into a more formal application in programming, offering a special framework of AOP. The concept of agent becomes endowed with various mental constructions, such as faith, responsibilities, and abilities, appearing various mental categories in the programming language and the semantics of programming will be associated with the semantics of mental constructions.

#### Related concepts

Without wishing exhaustive in its characterization:

- **An object** – is a programmatic entity of a given structure and mechanisms concretized to interact with other objects through the transmission of messages. Messages are formed and sent in response to incoming messages. Messages are generated by data-driven procedures.
- **Actor** – is the essence of the software of a certain structure and mechanisms of interaction. It contains data and procedures and is one of the pillars of object programming, it is useful in simplifying programming, as well as in protecting sensitive or sensitive data and with the possibility of reuse, relationships, inheritance and can generate messages.
- **Agent** – is a programmatic entity for performing assigned tasks. It has behavior, interacts with a complex environment and dynamically in external development, capable of being modified or modified by other agents depending on specific conditions. Interaction means perception of the dynamics of the environment; actions that change the environment; reasoning to interpret observed phenomena, solve problems, draw conclusions and determine actions. It is transformable in dynamically developing environments, the developing framework of which it is the agent.

#### Robotics and AI

The fields of robotics and artificial intelligence are closely related to each other. The integration of these two sciences, the creation of intelligent robots, constitutes another direction of AI. Intelligence is needed for robots to manipulate objects, navigate with location problems (locate, study nearby areas), and plan movement (such as reaching a target). Examples of intelligent robotics include Pleo robot toys, AIBO, QRIO.

The nature of human creativity is even less studied than the nature of intelligence. However, this area exists, and here the problems of computer writing, literary works (often - poems or fairy tales), artistic creations are placed. The creation of realistic images is widely used in the film and gaming industry. Separately, the study of the problems of technical creativity of artificial intelligence systems stands out. The theory of inventive problem solving, proposed in 1946 by G. S. Altshuller, laid the foundation for such an investigation.

Adding this capability to any intelligent system allows you to clearly demonstrate what exactly the system perceives and how it understands it. Adding noise instead of lack of information or filtering noise with the knowledge available in the system produces concrete images of abstract knowledge that are easily perceived by a person, this is especially useful for intuitive and low-value knowledge, the verification that it is a formal form requires significant mental effort.

## Artificial Intelligence in Justice

### Introduction

Second, Ross (2000, p. 313-314), the concept of justice seems a clear and simple concept, endowed with a powerful motivating force and whose concept permeates a judgment of historical, political, social and cultural values. Everywhere there seems to be an instinctive understanding of the demands of justice. Young children already appeal to justice if one of them receives a smaller bonbon than the others' bonbon. Animals possess the germ of a sense of justice.

Fighting for a "just" cause strengthens and excites a person. All wars have been fought in the name of justice and the same can be said of the political conflicts between social classes. On the other hand, the very fact of the almost ubiquitous applicability of the principle of justice arouses the suspicion that something "does not go well," with an idea that can be invoked in support of any cause.

Second, Plato, in classical antiquity, justice was the supreme virtue, that is, the one that brings together all the other virtues. Aristotle proposes various forms of justice as a means of generating equality, so that it can be understood in its distributive and corrective aspect. Thus, distributive justice consists in geometric equality, that is, treating equals equally and unequally unequal's; in turn, corrective justice consists of arithmetic equality, that is, justice to achieve reparation and achieve the previous *status quo* and not based on mere retribution.

Rawls, (2002), proposes an original definition, in which people must choose under what conditions they would like to live, without having all the necessary information in the society in which they live, where there would be in this society a "veil of ignorance", which constitutes a necessary instrument so that the individual does not make considerations arbitrarily. There must be a principle of freedom, equal opportunities and treatment for all citizens.

The concept of justice has its origin in the Latin term "*iustitia*" and refers to one of the four cardinal (or cardinal) virtues, that which is a constant and firm will to give to others what is due to them. Justice is what it must do according to law, reason, and equity. On the other hand, justice refers to Power.

It should be noted that the concept of social justice is used to refer to the set of decisions, norms and principles considered reasonable, according to a particular social collective. It can be said that justice has a cultural foundation (based on a social consensus on good and evil) and a formal foundation (one that is codified in written provisions, applied by judges and persons specially designated and qualified to do so).

Justice is what must be done according to law, reason and equity. On the other hand, justice refers to the Judiciary and to the penalty or public punishment. In this way, when society "asks for justice" in the face of a crime, what it does is ask the State to ensure that the crime is tried and punished, with the penalty it deserves.

### Lawsuit

Judicial process is a systematic way of organizing judicial procedures, necessary for the valid exercise of power, in which a judge of natural law or court, with regular jurisdiction, makes decisions about the law about a person or company.

The process is thus the set of documents and procedural documents that, following a pre-established legal rite and a predetermined bureaucracy, enable the competent Judge to pronounce a sentence. The process proceeds between the phases in the form of files, which informally, sometimes, are also referred to as "process". The case files are the set of documents that are ordered chronologically to materialize the acts of the procedure. The process, in turn, is characterized by its purpose, whatever it may be, jurisdiction; it is the "instrument for the legitimate exercise of power."

The judicial process is the instrument by which the jurisdiction operates, whose objectives are to eliminate conflicts and do justice through the application of the Law to the concrete case. It can be understood, therefore, as the instrument, created and regulated by law, for the exercise of one of the functions proper to the State, in this case the jurisdictional. They are general assumptions for the constitution of the procedural relationship;

- A formal complaint.
- Ability of the person making the complaint.
- Presence of a judge duly vested with powers by the State.

If such assumptions are present, the procedural relationship will be duly established, regardless of the validity of the right. This characterizes the autonomy of the procedural relationship in relation to the substantive law at issue.

There are three main subjects of the process: the [judge](#), the complainant and the defendant.

The judge composes the procedural relationship as a **representative** of the State, managing the procedural relationship between the parties **impartially** and with the function of resolving the conflict and generating social pacification. Therefore, the judge should be a third party who has no interest in the conflict, who conducts the proceedings according to the rules and principles established by the legal order and who allows the parties to participate widely and equally in the settlement of the dispute.

The complainant and the defendant are subjects who are opposed in the procedural relationship and who will have their sphere of rights reached by the result achieved at the end of the process. The plaintiff is the one who initiates the procedural relationship, and the defendant is the one against whom the process is promoted. Their positions in the process are guided by at least three basic principles:

- (1) There needs to be at least two parties involved in opposing positions in the procedural relationship.
- (2) Equal procedural treatment between the parties.
- (3) Contradictory, which guarantees the parties the possibility of acting in the process in defense of their interests.

### AI in Justice

The implementation of AI in Justice causes a cultural revolution in people, infrastructures, methods and methodology of investigation, processes (efficiency and effectiveness, technological means and deadlines), technologies, decision-making (faster), attitudes and perception of problems, productivity, as well as in the recruitment and selection processes, of justice professionals (competence) and Human Resources Management, it is enough to search the databases of indexed scientific articles and conference materials to gather their findings.

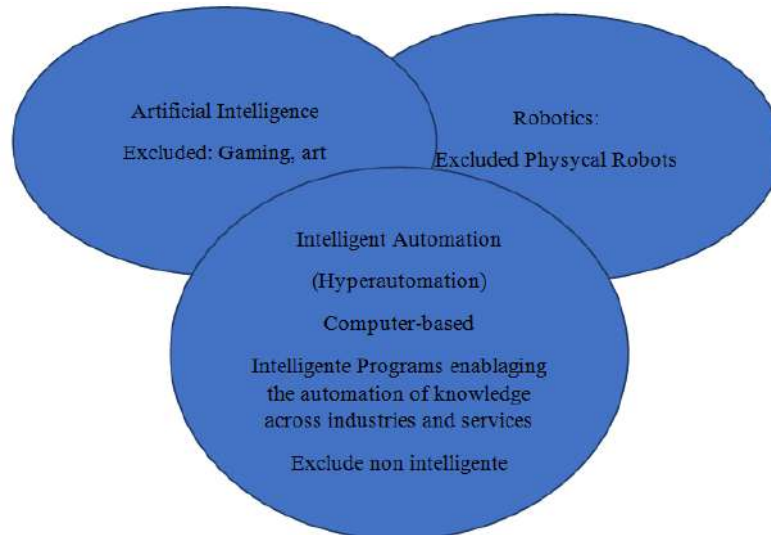
The advancement of artificial intelligence, court case management, and robotic process automation, there are still many obstacles. Among the barriers, there is an increase in the level of resistance to change and the speed of implementation. This is a result of the lack of sufficient evidence or measurements to reveal the true impact of Artificial Intelligence on Justice.

Second, Ghosh, (2021), the main problem is that AI will take away human resources occupations. While AI seems to transform the role of the workforce, it certainly doesn't mean loss of occupations. The latest IBM reports revealed that 90 percent of senior executives in multinational companies, where AI is used, have the notion that AI generates high-value jobs. This indicates that we will no longer live in a world controlled by robots or artificial intelligence.

Technologies in the field of robotic process automation, artificial intelligence and court case management are transforming the operationalization and control of court proceedings, as well as Human Resources Management. This is done by automating tedious and monotonous processes, which is resulting in production, evaluation by judicial experts, storage and permanent consultation, making court processes more effective and highly productive, freeing up human resources to do much more relevant work involving organization, planning and control.

According to Bornet, Barkin and Wirtz, (2021), the main components of work are Artificial Intelligence, Robotics, the Cloud, workflow, and automation of court proceedings. With Artificial Intelligence, the applications of Artificial Intelligence in knowledge-based operations at all stages of legal proceedings are considered. With Robotics, the greatest concentration is on software-based robotics (proof documents, identifications, statements, fingerprints, etc.), also known as Robotic Process Automation. Finally, with the last component the Cloud (data storage), workflows and Management of Legal Processes., intelligent platforms are considered, such as the management and performance of Human Resources, cloud and digital platforms.

FIGURE 5 - INTELLIGENT AUTOMATION COMPOSITION



Source: adapted from Bornet, Barkin and Wirtz, (2021, p. 43).

Second, Daugherty and Purdy, (2017), AI has become appealing due to the evolution of deep learning through high-speed data processing (Big Data) computers.

Second, Barnard, Coombs, Hislop and Taneva, (2020), artificial intelligence can help drive increased productivity, reduced lead times and costs, in court. The reformulation or formation of intelligent automation work tasks must be able to consider two points of view; the tasks that automation will perform and the proper organization of tasks or operations to achieve the desired result, specifically regarding the productivity and quality of service provided to society.

Second, Daugherty and Purdy, (2017), AI has become appealing due to the evolution of deep learning through high-speed data processing (Big Data) computers.

Second, Barnard, Coombs, Hislop and Taneva, (2020), artificial intelligence can help drive increased productivity, reduced lead times and costs, in court. The reformulation or formation of intelligent automation work tasks must be able to consider two points of view; the tasks that automation will perform and the proper organization of tasks or operations to achieve the desired result, specifically regarding the productivity and quality of service provided to society.

Many governmental, justice-related organizations seek to increase their human resources at a cheaper cost than employing technology. The COVID-19 crisis shows that such an approach is ineffective. The cost of fraudulent activities and errors committed by judicial human resources during investigations and other procedural phases is roughly equal to the investment made internationally in education and is becoming a major problem, Barkin and Wirtz, (2021, p. 301).

Intelligent automation is giving judicial employees the opportunity to shift from self-employment to higher value-added work, as a large percentage of time is wasted on inflexible autonomous and administrative operations, unproductive meetings and a large number of emails are major obstacles to the execution of their activities. Implementing automation will save them time to perform their operational tasks, Bornet, Barkin, and Wirtz, pp. 68, 69, and 198). It is crucial that judicial organizations consider the relevance and effects of customer satisfaction. Customer satisfaction has typically been the center of research and marketing projects for a long time, but very recently there has been extensive research linking the consumer experience with emerging technologies, Brill, Munoz, and Miller, (2018).

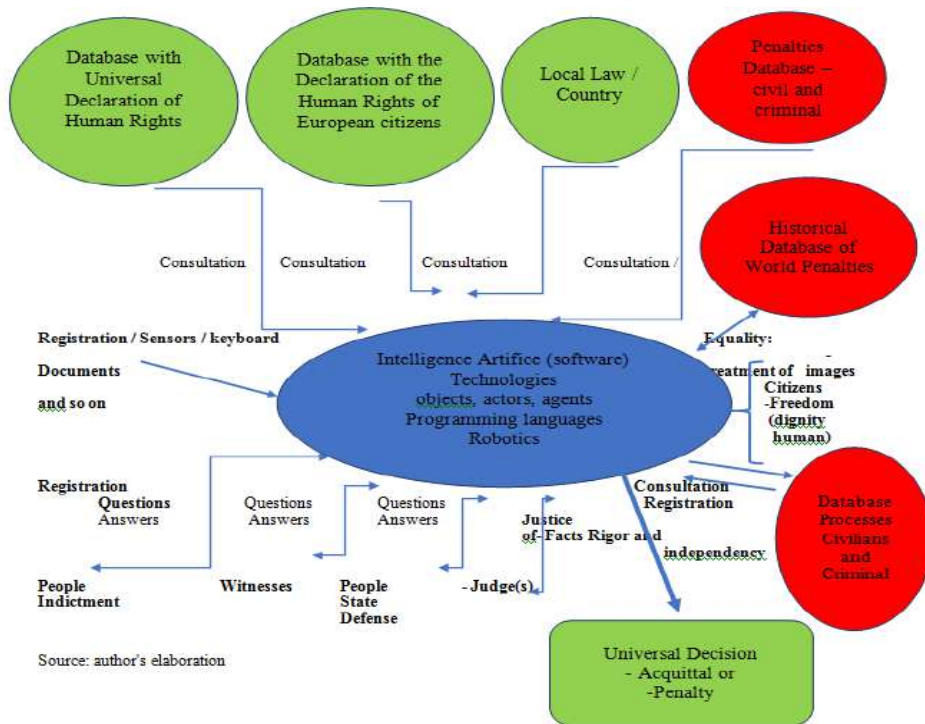
Intelligent automation is giving judicial employees the opportunity to shift from self-employment to higher value-added work, as a large percentage of time is wasted on inflexible autonomous and administrative operations, unproductive meetings and many emails are major obstacles to the execution of their activities. Implementing automation will save them time to perform their operational tasks, Bornet, Barkin, and Wirtz, pp. 68, 69, and 198). It is crucial that judicial organizations consider the relevance and effects of customer satisfaction. Customer satisfaction has typically been the center of research and marketing projects for a long time, but very recently there has been extensive research linking the consumer experience with emerging technologies, Brill, Munoz, and Miller, (2018).

Second, Cai, Gursoy and Lu, (2019), artificial intelligence as a component of intelligent automation makes fundamental mention of the provision of robotic and digitized services made to justice employees for the facilitation of their services (administrative, investigation, storage, consultation and decision). Artificial Intelligence is based on technology and a component of intelligent automation that impacts the experience and retention of employees of justice.

According to Mueter, Ostrom, Roudtree, and Bitner, (2000), previous studies have shown that after employing an analytical approach, artificial intelligence self-service technologies have good experiences in the various collaborators of justice. Good experiences range from the ability of self-service artificial intelligence to solve complex problems, offer superior services compared to human service employees and save costs and time.



Figure 6 – Models, Programming Languages, Representation and Use of Knowledge, Knowledge Production, Simulation, Robotics, Computer Creativity by Software (Computer Network, Base Software and Intelligent Systems)



Source: author's elaboration

Second, Dias Pereira, (2019), the estimated amount of time for completion of each phase of a judicial process is as follows:

- Trial in 1st. Instance → 2 to 4 months;
- Trial in 2nd. Instance → 4 to 6 months;
- Compliance with the Sentence → 6 to 8 months;

**V. DISCUSSION, CONCLUSIONS and CLUES FOR FUTURE INVESTIGATIONS**

**Future of Democracy**

The operationalization of the future of Democracy is very simple, but accepting the Democracy of the Future by the people, especially by the institutional powers (legislative, executive and judicial) will be very difficult and will probably take generations. The problem is in our culture, where the authorities evaluate people and don't know they could do better. Then, all new ideas come to the fore when they are supported by authorities, which they will not do with the Democracy of the Future. In addition, people would like to evaluate others, but they have no confidence in allowing others to evaluate them, etc. The main problem in creating a prosperous future is ignorance built and maintained by the authorities to protect their privileges.

The Democracy of the Future represents the most significant cultural revolution of all time, because **Equality of Human Rights** is the only necessary condition for the construction of a good society. The authorities love their power over others and would accept anything but losing it. Who are the authorities? The institutional authorities (legislative, executive, and judicial powers). The authorities have built an alienated knowledge that gives them power in society and defend it by all means to maintain their privileges. Everyone has some privilege, which means that equal human rights and a bright future for humanity are impeded by all for all.

Equal human rights are the greatest invention of all time. We have entered a phase of autonomy and focus on individuality, which does not favor but detests the authority and control of an all-powerful and highly prominent government that invades or may directly and indirectly infringe on our day-to-day affairs (our privacy and freedom). A form of democracy, which is not so stagnant but more efficient and effective, must be implemented to mitigate bureaucracy and the executive slowness of empowering the people in the form that this system offers.

Representative democracy may not have people's hearts and is not legally binding (in most cases) to pursue any promises made during the election campaign, so it is very necessary for future generations bold and ready to fight for their rights, to implement a more flexible way and participatory democracy.

Participatory Democracy will be able to impose the golden rule "Do to others what you would like them to do to you", which can create a good society. In essence, Participatory Democracy incorporates the principle of a fair market economy which rewards the good behavior of people (seller-consumer). It should work perfectly. Once Participatory Democracy is implemented, it will initiate rapid and significant social improvement. When people gain the right to evaluate and be evaluated by others, they will be less willing to confront others and more willing to please them. This is the best possible outcome of democracy. The technology needed for the implementation of Participatory Democracy is already available and can be implemented, so a much better society can be built quickly. Participatory Democracy is likely to realize all the dreams of dreamers of human history.

**Impact of AI on Justice**

The implementation of AI in Justice will provoke a true cultural and material revolution, in people, **in the** infrastructures to support Justice, in the methods and methodologies of investigation, judicial processes and their duration with much shorter deadlines, technologies used, rigorous and independent decision-making, based on facts and not on human subjectivity (interests), attitudes and behaviors of people linked to Justice and others.

In addition to the electronic file of all the documentation of the judicial proceedings and the statements of the different parties (prosecution, defense, and witnesses) the judicial decision / sentence is produced by the computer without human interference and consists of a printed page with the result of the sentence (conviction or acquittal).

This sentence is the same in any part of the civilized world, since it respects the Universal Declaration of Human Rights, the Declaration of European Rights (in the countries of the European Union), as well as the legislation of the country where the trial took place. In relation to penalties there is also consistency in that there is a Universal Database (unique) with the previous penalties.

The computer can issue a report with the assessment of all those involved in the proceedings, including the judges. To know whether the research problem was well formulated and conducted/oriented, in terms of human resources (skills involved), methodology and methods of approach. Significant increase in productivity, efficiency and effectiveness of work, as well as in the processes of training, recruitment and selection of qualified personnel (skills) and in the Management of Human Resources and Materials with significant reduction of personnel and infrastructure.

#### Limitations of the research study

We are aware of the limitations of the study, as many areas of the forensic sciences have not been studied, as well as the impact of AI in these areas of knowledge. However, the judicial system of each country is too expensive for taxpayers and as such must be managed, as a way for the **country to have an efficient and effective judicial system, at the lowest cost to taxpayers and stakeholders (parties, witnesses and judge).**

#### Clues to new investigations

The debate on Artificial Intelligence in Justice, from the Democracy of the Future (from Theory to Practice), can contribute to clarify the powers (legislative, executive and judicial) about the importance of this technology in the Judicial System, as a way to significantly improve productivity with lower costs and deadlines, paradigm shift and focus on rigor and independence of attitudes and behaviors. , in decision-making in the different areas of activity, influencing all organizational levels of governance, involving politicians, technical commissions and other members of the government, and with this, provide more assertive, transparent, solidary and responsible political decision-making, at all levels of the power structure (legislative, judicial and executive). We are already asked the following questions:

- What will be the AI Model to be implemented in the economy, of the Participatory Democracy of the Future?
- Can AI in the Participatory Democracy of the Future transform the market economy (greed) into the social economy?
- Isn't AI and globalization jeopardizing people's freedom and privacy?

#### KEY TERMS and DEFINITIONS

Artificial Intelligence – is intelligence demonstrated by machines, as opposed to natural intelligence displayed by animals, including humans

CAPTCHA - a type of challenge response test used in computing to determine whether the user is human. The term was coined in 2003 by Luis von Ahn, Manuel Blum, Nicholas J. Hopper and John Langford.

Hutter Prize - a cash prize funded by Marcus Hutter that rewards improvements in data compression in a specific 1 GB English text file, with the aim of encouraging research in artificial intelligence (AI).

**Hybrid Intelligent Systems (HIS)** - denotes a software system that employs, in parallel, a combination of methods and techniques from subfields of artificial intelligence.

Loebner Prize - an annual artificial intelligence competition that awards prizes to computer programs considered by judges to be the most human.

**Machine learning** - is the study of computer algorithms that can improve automatically through the experience and use of data.

Mechanical computer - a computer built from mechanical components such as levers and gears rather than electronic components.

**Robotics** - an interdisciplinary branch of informatics and engineering. Robotics involves the design, construction, operation, and use of robots.

#### BIBLIOGRAPHICAL REFERENCES

- [1]. Anglin, W. S. Lambek, J. 1995. *A Herança de Thales*, Springer.
- [2]. Anglin, W. S. Lambek, J. 1995. *A Herança de Thales*, Springer.
- [3]. Barnard, S., Coombs, C., Hislop, D., & Taneva, S. K. (2020, December). *The strategic impacts of Intelligent Automation for knowledge and service work: An interdisciplinary review*. Retrieved from Journal of Strategic Information Systems; Volume 29, Issue 4 : <https://doi.org/10.1016/j.jsis.2020.101600>
- [4]. Bellman, R., & Lee, E. S. (1978). *Functional equations in dynamic programming*. *Aequationes Mathematicae*, 18, 1–18. <https://doi.org/10.1007/BF01818535>
- [5]. Bitner, M. J., Mueter, M. L., Ostrom, A. L., & Roundtree, R. I. (2000, July 1). *Self-service technologies: Understanding customer satisfaction with technology-based service encounters*. Retrieved from SAGE: Journal of Marketing, 64(3), 50–64.: <https://journals.sagepub.com/doi/10.1509/jmkg.64.3.50.18024>
- [6]. Bornet, P., Barkin, I., & Wirtz, J. (2021). *Intelligent Automation: Welcome to the world of hyperautomation*. London: World Scientific Publishing Co. Pte. Ltd. Retrieved from Intelligent Automation: Welcome to the world of hyperautomation.
- [7]. Boxall, P., & Steeneveld, M., (1999), Human resource strategy and competitive advantage: A longitudinal study of engineering consultancies. *Journal of Management Studies*, 6(4), 448–463. <https://doi.org/10.1080/0267257X.2019.1687571>
- [8]. Brill, T. M., Munoz, L., & Miller, R. J. (2018, February). *Siri, Alexa, and Other Digital Assistants: A Study of Customer Satisfaction with Artificial Intelligence Applications*. Retrieved from UNIVERSITY OF DALLAS : <https://doi.org/10.1080/0267257X.2019.1687571>
- [9]. BuiltIn, 2022. *Inteligência Artificial. O que é Inteligência Artificial?* Recuperado de: <https://builtin.com/artificial-intelligence>
- [10]. Cai, R., Gursoy, D., & Lu, L. (2019, July). *Developing and validating a service robot integration willingness scale*. Retrieved from International Journal of Hospitality Management, 80, 36–51.: <https://www.sciencedirect.com/science/article/pii/S0278431918306455?via%3Dihub>
- [11]. Camacho, S., & Bilitos, A. (2022). *Teleworking and technostress: early consequences of a COVID-19 lockdown. Cognition, Technology and Work*. <https://doi.org/10.1007/S10111-022-006g3>. Disorders: a Scoping Review. *Journal of Occupational Rehabilitation*, 8(1), 1–8. <https://doi.org/10.1007/S10926-022-1034-X>
- [12]. Castillo O., Mellin P. 2006. *Sistemas Inteligentes Híbridos*.
- [13]. Dartmouth, 1956. *Inteligência Artificial (IA) Cunhada em Dartmouth*. Recuperado de: <https://250.dartmouth.edu/highlights/artificial-intelligence-ai-coined-dartmouth>
- [14]. Daugherty, P., & Purdy, M. (2017). *How AI Boosts Industry Profits and Innovation*. Retrieved from ACCENTURE: [https://www.accenture.com/fr-fr/\\_acnmedia/36dc7f76eab444cab6a7f44017cc3997.pdf](https://www.accenture.com/fr-fr/_acnmedia/36dc7f76eab444cab6a7f44017cc3997.pdf)

- [15]. De Mul, Jos, (2015, p. 97-118), Database Identity: Personal and Cultural Identity in the age of Global Datafication. In: DE BEEN, Wouter; ARORA, Payal; HILDEBRANDT, Mireille (org.). Crossroads in new media, identity and law: the shape of diversity to come. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- [16]. Diakonov, V. P. 2009. Enciclopédia de Álgebra Informática. 1ª edição, dois volumes. DMK-Press. (Динконов В. М. Энциклопедия компьютерной алгебры. — 1-е изд., в двух томах. — Москва: ДМК-Мессс)
- [17]. Du Mont, Rosemary Ruhig, (1991), Ethics in librarianship: a management model. *Library Trends*, v. 40, n. 2, p. 201-215.
- [18]. Esch, P. van, & Black JS, (2019), Factors that influence new generation candidatestoengagewithandcompletedigital, AI-enabled recruiting. *BusinessHorizons*, 6c(6), 72 739-  
[https://www.sciencedirect.com/science/article/pii/S000768\\*3\\*930053?Casa\\_token=71Zk12CJnnUAAAAA:P8sgmkTkb62PSa1xUuI272YayVPxIbAd2HvQqEovRLXiLNkIGcHgOVf6TgVPuD8TxFbsrb8IUoOE](https://www.sciencedirect.com/science/article/pii/S000768*3*930053?Casa_token=71Zk12CJnnUAAAAA:P8sgmkTkb62PSa1xUuI272YayVPxIbAd2HvQqEovRLXiLNkIGcHgOVf6TgVPuD8TxFbsrb8IUoOE)
- [19]. Fernández-Martínez, C., & Fernández, (2020). AI and recruiting software: Ethical and legal implications. *BusinessHorizons*, 11(1), 1—zi6. <https://doi.org/10.1016/j.bhr.2020.3.001>
- [20]. Frey, C.B., & Osborne, M.A. (2017) The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 6(3), 24-25. <https://doi.org/10.1016/j.techfore.2017.05.012>
- [21]. Ghosh, S. (2021, April 8). *The Future Is Both Automated And Intelligent*. Retrieved from Forbes Technology Council: <https://www.forbes.com/sites/forbestechcouncil/2021/04/08/the-future-is-both-automated-and-intelligent/?sh=4fa06fc35664>
- [22]. Gurkov, Andrey, (2019). Quem é o líder mundial no campo da inteligência artificial? (Гурков, Андрей).
- [23]. Haleem, A., Javaid, M., & Khan, I.H. (2019). Current status and applications of artificial intelligence (AI) in medical field: An overview. *Current Medicine Research and Practice*, 9(4), 231—237. [https://www.sciencedirect.com/science/article/pii/S235208\\*713093](https://www.sciencedirect.com/science/article/pii/S235208*713093)
- [24]. Hammerman, Robin, Russell, Andrew. 2016. Legado de Ada: Culturas de Computação do Vitoriano à Era Digital. Associação de Máquinas Computadoras e Editoras Morgan & Claypool.
- [25]. Haugeland, John. 1985. *Inteligência Artificial: A Própria Ideia*. Cambridge, Mass.:
- [26]. Hebb, D.O. 1949. A organização do comportamento. Recuperado de: <https://psycnet.apa.org/record/1950-02200-000>
- [27]. Horizontes de Negócios, 2019. Siri, Siri, na minha mão: quem é a mais bela da terra? Sobre as interpretações, ilustrações e implicações da inteligência artificial. Volume 62, Edição 1. Recuperado de: <https://www.sciencedirect.com/science/article/abs/pii/S0007681318301393>
- [28]. <https://becominghuman.ai/alan-turing-believed-the-question-can-machines-think-to-be-meaningless-7a4a8887b220>
- [29]. Japiassu, Hilton, (1977. p-13-15), As máscaras da ciência. *Ciência da Informação*, Rio de Janeiro, v.6, n.1., Disponível em: <http://revista.ibict.br/index.php/ciinf/article/view/1566>
- [30]. Jarrahi MH. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 31(4), 577-586. [https://www.sciencedirect.com/science/article/pii/S000768\\*318301393](https://www.sciencedirect.com/science/article/pii/S000768*318301393)
- [31]. Kitchener, K. (2022). Skills, tasks, and definitions: Discrepancies in the understanding and data on the development of folk epistemology. *New Ideas in Psychology*, 40(1), 39-52. [https://www.sciencedirect.com/science/article/pii/S0732118X02000120?casa\\_token=S\\_YVO2-LhMWgAAAAA:SCtY-DXErg2iQwrwV4VurG2e2WiaHYqAtIRmM7ggLaiWILV495MsRhJnfWCJyxGu](https://www.sciencedirect.com/science/article/pii/S0732118X02000120?casa_token=S_YVO2-LhMWgAAAAA:SCtY-DXErg2iQwrwV4VurG2e2WiaHYqAtIRmM7ggLaiWILV495MsRhJnfWCJyxGu)
- [32]. Koskimies, E., & Kinder, T. (2022). Mutuality in AI-enabled new public services solutions. *Public Management Series*, 1—26. <https://doi.org/10.1080/14747202.2022.2078501>
- [33]. Lazzarotti, L., Innocenti, N., Nannelli, M., & Oliva, S. (2022). The emergence of artificial intelligence in the regional sciences: a literature review. *European Planning Studies*, 30(1), 21—41. <https://doi.org/10.1080/09654313.2022.2101880>
- [34]. Leicht-Deobald, U., Busch, T., Schank, C., Weibel, A., Schafheite, S., Wildhaber, L., & Kasper, G. (2019). The Challenges of Algorithm-Based HR Decision-Making for Personal Integrity. *Journal of Business Ethics*, 160(2), 377-392. <https://doi.org/10.1007/s10559-020-04204-w>
- [35]. Marwick, A.D. (2001). Knowledge management technology. *IBM Systems Journal*, 46(4), 814-830. <https://ieeexplore.ieee.org/abstract/document/s38646/>
- [36]. McCulloch, Warren, Pitts, Walter. 1943. Um cálculo lógico das ideias imanentes na atividade nervosa. Recuperado de: <https://link.springer.com/article/10.1007/BF02478259>
- [37]. Murphy, Paul Austin. 2020. Alan Turing acreditava que a pergunta "As máquinas podem pensar?" Recuperado de:
- [38]. Murphy, R.R. (2019). *Introduction to AI robotics*. MIT press. [https://books.google.com/books?hl=en&lr=&id=TmqdDwAAQBAJ&oi=fnd&pg=PR7&dq=ai+robotics+definition&ots=Rr4Le&sig=sRpZBvBFhLN\\_KcDNWSYXGEQIz4S](https://books.google.com/books?hl=en&lr=&id=TmqdDwAAQBAJ&oi=fnd&pg=PR7&dq=ai+robotics+definition&ots=Rr4Le&sig=sRpZBvBFhLN_KcDNWSYXGEQIz4S)
- [39]. Murteira, Mário, (2001), *A Transição para a Economia do Conhecimento em Portugal*, Economia Global e Gestão, AEDGISCTE, Nº 1
- [40]. Negnevitsky M. 2005. *Inteligência Artificial. Um guia para sistemas inteligentes*. — Harlow, Inglaterra: Addison-Wesley.
- [41]. O Livro de Recortes de Internet de Alan Turing, (1950). O teste de Turing de 1950. Recuperado de: <https://www.turing.org.uk/scrapbook/test.html>
- [42]. Platão, (2014), *A República*. Coleção Os Pensadores. São Paulo: Ed. Abril.
- [43]. Rawls, John, (2002 p. 33-34, 64-66), *Uma teoria da justiça*. 2ª Ed. São Paulo: Martins Fontes.
- [44]. Sampaio, José Adércio Leite, (1998), *Direito à intimidade e à vida privada*. Belo Horizonte: Del Rey.
- [45]. Sarker, I.H. (2022). AI-Based Modeling: Techniques, Applications and Research Issues Towards Automation, Intelligent and Smart Systems. *SDV Computer Science*, 1(2). <https://doi.org/10.1016/j.sdsc.2022.100001>
- [46]. Sehgal, R., Khanna, A., Dubey, A. M., & Khanna, P. (2022). Industry 4.0: A Paradigm Shift in Technological Approach for Business Organization and Society. *Susfoinobifity in the Gig Economy*, 5(2), 242-252. <https://doi.org/10.1016/j.susfo.2022.100001>
- [47]. Shinde, P., & Shah, S. (2018). A review of machine learning and deep learning applications. *Znzo8 Fourth International Conference on Computing Communication Control and Automation (ICCCUBEA)*, 1—6. <https://ieeexplore.ieee.org/abstract/document/8697857?casaptoken=MYYv6ceR-qoAAAAA:TCG-7-JRWyOANo8T5WC5hJ28UxNQB0opDaQOXQ242HU5uyVns3Kssr547Ga3i5YuN2irKD>

- [48]. Shoham Yoav. 1990. [Programação Orientada para o Agente](#): Relatório Técnico STAN-CS-90-1335. — Departamento de Informática da [Universidade de Stanford](#)
- [49]. Sidner, C., Lee, C., Kidd, C., Lesh, N., & Rich, C. (2005). Explorations in engagement for humans and robots. *Artificial Intelligence*, 166(1–2), \*40–64. <https://www.sciencedirect.com/science/article/pii/S0437500512>
- [50]. Swiechowski, Maciej. 2020. "[Competições de AI de Jogo: Motivação para a Competição de Jogo de Imitação](#)" (PDF), Proceedings of the 15th Conference on Computer Science and Information Systems (FedCSIS 2020),
- [51]. Teixeira, C., C., (2018). *Curso de Teoria Geral do Processo*. 2ª ed. Belo Horizonte: Editora D'Plácido..
- [52]. Turing, Alan, (1950), Máquinas de Computação e Inteligência. Mente, LIX (236).
- [53]. van Esch, P., & Mente, M. (2018), Marketing video-enabled social media as part of your recruitment strategy: Stop trying to be trendy. *Journal of Retailing and Consumer Services*, qq(i), 266–273. [https://www.sciencedirect.com/science/article/pii/S0969353618302868?casa\\_token=d8YtAEGCDIMAAAAA:mO-JQD8nBLS8sQsdaEiXE3piYDj\\_kvRf4goNGT3KecmKMxghRnO\\_qbjkr-g8wKNtD6XGP8LGw](https://www.sciencedirect.com/science/article/pii/S0969353618302868?casa_token=d8YtAEGCDIMAAAAA:mO-JQD8nBLS8sQsdaEiXE3piYDj_kvRf4goNGT3KecmKMxghRnO_qbjkr-g8wKNtD6XGP8LGw)
- [54]. van Wynsberghe, A. (2021), Sustainable AI: AI for sustainability and the sustainability of AI. *Afand Ethics*, (3), 213–218. <https://doi.org/10.1017/S43681-021-0043-6>
- [55]. Wernter S., Sun R. 2000. *Sistemas Neurais Híbridos*. — Heidelberg, Alemanha: Springer-Verlag.
- [56]. Witten, I.H. Frank, E., (2006), *Data Mining: Ferramentas e Técnicas práticas de aprendizagem automática* (Segunda Edição). — Morgan Kaufmann
- [57]. Кто мировой лидер в области искусственного интеллекта? Deutsche Welle (2019).
- [58]. [Russell, Stuart J. & Norvig, Peter. \(2003\), \*Inteligência Artificial: Uma Abordagem Moderna\* \(2º ed.\), Upper Saddle River, Nova Jersey: Prentice Hall](#)
- [59]. **Additional Bibliographical References**
- [60]. „Bagatell Rendelet”-hez.” (A caminho do Europeu Unificado Procedimento Civil? - Observações ao Primeiro Marco, o Regulamento Bagatelle) (2008) 5 Eur6pai J6g 9-14.
- [61]. 31st International Conference of Data Protection and Privacy Commissioners, (2009), Standards on Privacy and Personal Data. Available at: [www.ohchr.org/Documents/Publications/Factsheet32EN.pdf](http://www.ohchr.org/Documents/Publications/Factsheet32EN.pdf)
- [62]. A Carta Magna (1215). (s.d.). Uma Breve História dos Direitos Humanos Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-humanrights/brief-history/magna-carta.html>
- [63]. A Constituição dos Estados Unidos da América (1787) Uma Breve História dos Direitos Humanos - e a Declaração dos Direitos (1791). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-humanrights/briefhistory/declaration-of-independence.html>
- [64]. A dignidade da pessoa humana no pensamento de Kant. (Julho de 2005). Obtido de Jus.com.br: <https://jus.com.br/artigos/7069/a-dignidade-da-pessoa-humana-no-pensamento-dekant>
- [65]. Aaronson, Scott. 2014. My Conversation with "Eugene Goostman", o Chatbot que é All Over the News por alegadamente passar o Teste de Turing. Shtetl-Optimizado, O Blog de Scott Aaronson.
- [66]. Aaronson, Scott. 2014. My Conversation with "Eugene Goostman", o Chatbot que é All Over the News por alegadamente passar o Teste de Turing. Shtetl-Optimizado, O Blog de Scott Aaronson.
- [67]. Ag Budin, D.K., & Wafa, S. A. (2015). A relação entre a cultura e a preferência pelo estilo Lentre malaia-brunei, Bajau., e a comunidade Kadazan-Dusun em Sabah, Malásia. *O Journal of Management Development*, 34(10), 1202-1210.
- [68]. Agilrwal, A. (2022). AI adoption by human resource management: a study of its antecedents and impact on HR system effectiveness. *Foresight*. <https://doi.org/10.1108/FS-10-2021-0109/FULL/HTML>
- [69]. Amar, A.D., & Hlupic, V. (2016). Liderança para organizações de conhecimento. *European Journal of Innovation Management*, 19(2), 239-260.
- [70]. Anglin, W. S. Lambek, J. (1995), *A Herança de Thales*, Springer.
- [71]. Anónimo. (2004). A arte da previsão. *O futurista*, 38(3), A1-A2, A4-A7.
- [72]. Antoine Garapon, Julie Allard. (2005), Les juges dans la mondialisation, la nouvelle révolution du droit, edi. Du Seuil.
- [73]. As Nações Unidas (1945). (s.d.). Uma Breve História dos Direitos Humanos - Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/the-united-nations.html>
- [74]. Asthana, R. (2006). Cruzando o abismo analítico. *Jornal de Inteligência Empresarial*, 11, 13-21.
- [75]. Athow, D. (2014). O que está a impulsionar os grandes dados e a análise preditiva em 2014? *TechRadar.pro*. Recuperado de: <https://www.techradar.com/news/internet/data-centre/how-to-master-big-data-and-analytics-in-2014-1211834>
- [76]. Balasubramanian, N., Ye, Y., & Xu, M. (2020). Substituting Human Decision-Making with Machine Learning: Implications for Organizational Learning. *Academy of Management Review* 44(4) 465–484.
- [77]. Barnett, J., Mani, I., Rich, E., Aone, C., & Knight, K. (1991). Capturing language-specific semantic distinctions in interlingua-based MT. In *Proceedings of Machine Translation Summit III: Papers*, 05–32. [https://aclanthology.org/ijgmi\\_mtsummit\\_papers.4/](https://aclanthology.org/ijgmi_mtsummit_papers.4/)
- [78]. Bastos, Celso Ribeiro, (1992, p 169), **Curso de Direito Constitucional**. 14ª Ed. São Paulo: Saraiva.
- [79]. Bauer, H., & Gewurtz, R. (2022). Demand-side Employment Interventions for Individuals with Common Mental Inmono/ternationnf Conference on *Computation, Automation and Knowledge Management* 47. [https://ieeexplore.ieee.org/abstract/document/51544?casapoken=BdRnkl'Z2Jt8AAAAA:EVXlmeZcKYOp6sWxoYWEDAQdQo3hSqiOrIUooCsJJKFpEvfiRZAE-XG7GbhSdY8ZXqGtxavDO\\_T](https://ieeexplore.ieee.org/abstract/document/51544?casapoken=BdRnkl'Z2Jt8AAAAA:EVXlmeZcKYOp6sWxoYWEDAQdQo3hSqiOrIUooCsJJKFpEvfiRZAE-XG7GbhSdY8ZXqGtxavDO_T)
- [80]. BBC, (2008), Facebook ‘violates privacy laws’. Available at: <http://news.bbc.co.uk/2/hi/7428833.stm>
- [81]. BBC. 2011. France fi nes Google over Street View data blunder. Available at: [www.bbc.com/news/technology-1211834](http://www.bbc.com/news/technology-1211834)
- [82]. Bellman, R., & Lee, E. S. (1978). Functionalequations in dynamic programming. *Aequationes Mathematicae*, 1, 1–18. <https://doi.org/10.1007/BF01818535>
- [83]. Berkeley ACM A.M. 2022. Co-úquio laureado de Turing. Recuperado de: <https://eecs.berkeley.edu/turing-colloquium>
- [84]. Berkeley ACM A.M. 2022. Co-úquio laureado de Turing. Recuperado de: <https://eecs.berkeley.edu/turing-colloquium>
- [85]. BIS Working Papers, n.140, september 2003 (com "Discussion" di I. Visco e S. Whadwani). Disponível em: <http://www.bis.org/publ/work140.pdf?noframes=1>.
- [86]. Bobbio, Norberto, (1996, p. 7), **Igualdade e liberdade**. Ediouro, Rio de Janeiro,



- [87]. Bonn, M. A., Li, J., & Ye, B. H. (2019, August). *Hotel employee's artificial intelligence and robotics awareness and its impact on turnover intention: The moderating roles of perceived organizational support and competitive psychological climate*. Retrieved from *Tourism Management*, 73, 172–181.: <https://www.sciencedirect.com/science/article/pii/S0261517719300354?via%3Dihub>
- [88]. Borio, C.; Lowe, P. Asset prices, financial and monetary stability: exploring the nexus. *BIS Working Papers*, n.114, July 2002. Disponível em:
- [89]. Bornet, P. (2020, November 13). *Intelligent Automation Is About Boosting Business And Making Our World More Human*. Retrieved from *Forbes Technology Council*: <https://www.forbes.com/sites/forbestechcouncil/2020/11/13/intelligent-automation-is-about-boosting-business-and-making-our-world-more-human/?sh=32d7d5b89d7a>
- [90]. Brandão, André Martins, (2013), *Interpretação jurídica e Direito à Privacidade na Era da Informação: Uma abordagem hermenêutica filosófica*. *Revista Paradigma*, Ribeirão Preto, A. XVIII, n. 22, p. 232-257, jan./dez.
- [91]. Briggs, A. Burke, (2006), P. *Social History of the Media: From Gutenberg to the Internet*. Nova Iorque: Polity.
- [92]. Britannica, 2022. O *teste de Turing*. Recuperado de: <https://www.britannica.com/technology/artificial-intelligence/The-Turing-test>
- [93]. Britannica, 2022. O *teste de Turing*. Recuperado de: <https://www.britannica.com/technology/artificial-intelligence/The-Turing-test>
- [94]. Bronstein, S. (2019, February 26). *With more Business Disruption Expected, making Organisations "Future-Fit" is top of Mind, New Study Finds*. Retrieved from *Mercer* : <https://www.uk.mercer.com/newsroom/mercero-identifies-four-top-talent-trends-2019-uk.html>
- [95]. Brougham, D., & Haar, J. (2016, October 2). *Smart Technology, Artificial Intelligence, Robotics, and Algorithms (STARA): Employees' perceptions of our future workplace*. Retrieved from *Journal of Management & Organization*: doi:10.1017/jmo.2016.55
- [96]. Brynjolfsson, E., & McAfee, A. (2015).
- [97]. Buchanan, B. G. (2005, 12 15). *A (Very) Brief History of Artificial Intelligence*. Retrieved from *AI Magazine*, 26(4), 53 : <https://doi.org/10.1609/aimag.v26i4.1848>
- [98]. Bughin, J., Chui, M., Joshi, R., Manyika, J., & Seong, J. (2018, September 4). *Notes from the AI frontier: Modeling the impact of AI on the world economy*. Retrieved from *McKinsey Global Institute*: <https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy>
- [99]. Buitin, 2022. *Inteligência Artificial. O que é Inteligência Artificial?* Recuperado de: <https://buitin.com/artificial-intelligence>
- [100]. Bulow, Oskar von. *La Teoría de las Excepciones Procesales y los Presupuestos Procesales*. (trad. para o espanhol). Buenos Aires, 1964 ed. [S.L.: s.n.]
- [101]. Bushe, G.R.P., & Marshak, R. J. P. (2016). A mentalidade dialógica: a mudança emergente num mundo complexo. *Jornal de Desenvolvimento da Organização*, 34(1), 37-65.
- [102]. Cabral, B. F. (23 set. 2010 de 2010). *Freedom of speech - Considerações sobre a liberdade de expressão e de imprensa no direito norte-americano*. Obtido de *Jus.com.br*: <https://jus.com.br/artigos/17476/freedom-of-speech>
- [103]. Cam, A., Chui, M., & Hall, B. (2019, November 22). *Global AI Survey: AI proves its worth, but few scale impact*. Retrieved from *McKinsey & Company*: <https://www.mckinsey.com/featured-insights/artificial-intelligence/global-ai-survey-ai-proves-its-worth-but-few-scale-impact>
- [104]. Camacho, S., & Bilitos, A. (2022), *Teleworking and technostress: early consequences of a COVID-19 lockdown*. *Cognition, Technology and Work*. <https://doi.org/10.1007/S10111-022-006g3>. Disorders: a Scoping Review. *Journal of Occupational Rehabilitation*, i—8. <https://doi.org/10.1007/S10926-022-1034-X>
- [105]. Câmara, Alexandre de Freitas, (2015), *O novo processo civil brasileiro*. São Paulo: Atlas.
- [106]. Câmara, M. A., (2005), *Telecentros como instrumento de inclusão digital: Perspectiva comparada em Minas Gerais*. Dissertação (Mestrado em Ciência da Informação) – Universidade Federal de Minas Gerais, Belo Horizonte, 2005. Disponível em: <http://www.gemasdaterra.org.br/docs/tesemaurocamara.pdf>. Acesso em: 12 fev. 2017.
- [107]. Cardoso, Gustavo, (2007), *A Mídia na Sociedade em Rede: filtros, vitrines, notícias*. Rio de Janeiro: Editora FGV.
- [108]. Carolina Luchina Giordani Nunes, (2013), *O Princípio da Razoável Duração do Processo e seus Critérios de Definição no Âmbito do Sistema Interamericano de Direitos Humanos: Um Estudo do Caso Damião Ximenes Lopes*, *Revista do CEJUR/TJCS: Prestação Judicial*, ISSN: 2319-0876; ISSN Electronico: 2319-0884.
- [109]. Carvalho, J. & Ramos, T. (2009). *Logística na saúde*. 1ª Edição. Lisboa: Edições Sílabo.
- [110]. Carvalho, J. et al. (2010). *Logística e gestão da cadeia de abastecimento*. 1ª Edição. Lisboa: Edições Sílabo.
- [111]. Carvalho, J., Carvalho, V. et al. (2001). *Auditoria logística – Medir para gerir*. 1ª Edição. Lisboa: Edições Sílabo.
- [112]. Carvalho, O. B. de M., (2009), Os “incluídos digitais” são “incluídos sociais”? Estado, mercado e a inserção dos indivíduos na sociedade da informação. *Liinc em Revista*, v. 5, n. 1, Disponível em: <http://revista.ibict.br/liinc/index.php/liinc/article/viewFile/294/184>. Acesso em: 12 fev. 2017.
- [113]. Castells, Manuel, (1999, v. 3). *Fim de milênio: a era da informação: economia, sociedade e cultura*. Trad. Klaus Brandini Gerhardt e Roneide Venancio Majer. São Paulo: Paz e Terra,
- [114]. Castells, Manuel, (2003), *A galáxia da Internet: reflexões sobre a Internet, negócios e a sociedade*. Trad. Maria Luiza X. de A. Borges. Rio de Janeiro: Jorge Zahar Ed.
- [115]. Castells, Manuel, (2009), *Communication power*. Oxford: Oxford University Press.
- [116]. Castillo O., Mellin P. 2006. *Sistemas Inteligentes Híbridos*.
- [117]. CBC News. 2010. *Montreal man on watch list rallies supporters*. Available at:
- [118]. Charlwood, A., & Guenole, N. (2021). *Can HR adapt to the paradoxes of AI?* *Human Resource Management Journal*.
- [119]. Chaves, Charley Teixeira. *Curso de Teoria Geral do Processo*. 2ª ed. Belo Horizonte: Editora D'Plácido, 2016.
- [120]. Chen, C., Chung, V., HV, V., Ji, X., Koh, K., Ng, E., . . . Xiao, L. (2019). *The ecosystem playbook: Winning in a world of ecosystems*. Retrieved from McKinsey: <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/winning%20in%20a%20world%20of%20ecosystems/winning-in-a-world-of-ecosystems-vf.pdf>
- [121]. Chiovenda, (1900), *La Condanna nelle Spese Giudiziali*, Roma.
- [122]. Chiovenda, (1930), *Istituzioni di diritto processuale civile*, Jovene.
- [123]. Chong, K. C. (1996). *Educação para viver amanhã: Premissas para planejamento de desenvolvimento*. *O International Journal of Educational Management*, 10(4), 10-13. Recuperado de <https://proxy.ccybrary.com/login?url=https://search-proquest-com.proxy.ccybrary.com/docview/229139327?accountid=144789>
- [124]. Christian Morel, (2002), *Les decisions absurde, sociologie des erreurs radicales et persistantes*, Galimard, «Une grille de lecture des decisions absurde», *Justice*, n.º 187.
- [125]. Cintra, Antonio Carlos de Araújo; Grinover Ada Pellegrini; Dinamarco, Cândido Rangel, (2008), *Teoria geral do processo*. São Paulo: Malheiros.

- [126]. Clair, C. L., O'Donnell, G., Gownder, J. P., Lipson, A., & Lynch, D. (2020, February 21). *Intelligent Automation (RPA Plus AI) Will Release \$134 Billion In Labor Value In 2022*. Retrieved from FORRESTER: <https://www.forrester.com/report/Intelligent+Automation+RPA+Plus+AI+Will+Release+134+Billion+In+Labor+Value+In+2022/-/E-RES158835>
- [127]. Clifton, J. (2017, June 13). *The World's Broken Workplace*. Retrieved from Gallup: <https://news.gallup.com/opinion/chairman/212045/world-broken-workplace.aspx>
- [128]. Combate Real ao Crime Virtual. (2016). Visão, 68.
- [129]. Comissão dos Direitos Humanos da Ordem dos Advogados. (2007). *Direitos Fundamentais - Multiculturalismo e Religiões*. Estoril: Príncipeia.
- [130]. Concerning Al-Qaida and the Taliban and Associated Individuals and Entities: [www.un.org/sc/committees/1267](http://www.un.org/sc/committees/1267)
- [131]. Conrad, M. e Zauner, K.P. 2000. Computação Molecular com Neurônios Artificiais. *Comunicações da Sociedade coreana de Ciência da Informação*, 18 (8)
- [132]. Conrad, M. e Zauner, K.P. 2000. Computação Molecular com Neurônios Artificiais. *Comunicações da Sociedade coreana de Ciência da Informação*, 18 (8)
- [133]. *Conselho Nacional de Justiça. «Pergunta Frequentes». Consultado em 27 de agosto de 2017*
- [134]. Council of Europe. (2012), Recommendation on the protection of human rights with regard to search engines, Recommendation CM/Rec (2012)3. Available at: <https://wcd.coe.int/ViewDoc.jsp?id=17232&lang=en>
- [135]. Council of The European Union, (2016), General Data Protection Regulation. (S. l.: s. n.).
- [136]. Cuggia, M., Besana, P., & Glasspool, D. (2011). Comparing semi-automatic systems for recruitment of patients to clinical trials.
- [137]. Dahlberg, I., (1978, p. 101-107) "Teoria do conceito". *Ciência da Informação*, Rio de Janeiro, v. 7, n. 2.
- [138]. Dahlberg, I., (2006, p. 82-85), Feature: interview with Integrant Dahlberg, December 2007. *Knowl. Organ.*, v. 35, n. 2/3.
- [139]. Dallari, Dalmo de Abreu. (1994, p.256). *Elementos de Teoria Geral do Estado*. 18ª Ed. São Paulo: Saraiva.
- [140]. Dartmouth, 1956. Inteligência Artificial (IA) Cunhada em Dartmouth. Recuperado de: <https://250.dartmouth.edu/highlights/artificial-intelligence-ai-coined-dartmouth>
- [141]. Davenport, T.H.; Prusak, L., (1998), *Conhecimento empresarial: como as organizações gerenciam o seu capital intelectual*. Rio de Janeiro: Campus.
- [142]. Davenport, Thomas H., (1998), *Ecologia da Informação: por que só a tecnologia não basta para o sucesso na era da informação*. 6. ed. São Paulo: Futura.
- [143]. *David Walker (1980). Oxford Companion to Law. Oxford University Press. [S.l.: s.n.] p. 1003. ISBN 0-19-866110-X, 02/02/2015*
- [144]. Davies, B., (1998, p. 133-145), Psychology's subject: a commentary on the relativism/realism debate'. In: Parker, I. (ed.). *Social Constructionism, Discourse and Realism*. London: Sage.
- [145]. De Mul, Jos, (2015, p. 97-118), Database Identity: Personal and Cultural Identity in the age of Global Datafication. In: DE BEEN, Wouter; ARORA, Payal; HILDEBRANDT, Mireille (org.). *Crossroads in new media, identity and law: the shape of diversity to come*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- [146]. DeCEW, Judith W, (1997), *In pursuit of privacy. Law, Ethics, and the rise of technology*. Ithaca: Cornell University Press.
- [147]. Declaração de Independência dos Estados Unidos (1776). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-humanrights/brief-history/declaration-of-independence.html>
- [148]. Declaração Universal dos Direitos Humanos. (s.d.). Obtido de United Nations Human Rights - Office of the High Commissioner: [http://www.ohchr.org/EN/UDHR/Documents/UDHR\\_Translations/por.pdf](http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/por.pdf)
- [149]. Deloitte Insights. (2020). *Automation with Intelligence*. Retrieved from Deloitte: [https://www2.deloitte.com/content/dam/insights/us/articles/73699-global-intelligent-automation-survey/DI\\_Automation-with-intelligence.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/73699-global-intelligent-automation-survey/DI_Automation-with-intelligence.pdf)
- [150]. *Deloitte*. (2018). Retrieved from Deloitte Global RPA Survey : <https://www2.deloitte.com/bg/en/pages/technology/articles/deloitte-global-rpa-survey-2018.html>
- [151]. Dertouzos, Michael, (1997), *O Que será – Como o novo Mundo da Informação transformará nossas vidas*. São Paulo: Companhia das Letras.
- [152]. Descartes, Rene. 2015. Discurso sobre método. Biblioteca Filosófica Estrada Aberta
- [153]. Descartes, Rene. 2015. Discurso sobre método. Biblioteca Filosófica Estrada Aberta
- [154]. Deutinger, Stephanie and Lina Dornhofer, (2012), *!?!... is watching you. Menschenrechte und Überwachung*. Available at: [www.etcgraz.at/typo3/index.php?id=1064](http://www.etcgraz.at/typo3/index.php?id=1064)
- [155]. DeVaro, J., & Morita, H. (2013b). Internal promotion and external recruitment: A theoretical and empirical analysis. *Journal of Labor Economics*,
- [156]. DeVaro, J., & Morita, H. (2013a). Internal promotion and external recruitment: A theoretical and empirical analysis. *Journal of Labor Economics*,
- [157]. Devlin, K. (1999), *Info Sense: turning information into knowledge*. W. H. Freeman and Company, New York
- [158]. Diakonov V. P., (2009), Enciclopédia de Álgebra Informática. 1ª edição, dois volumes. DMK-Press. (Динконов В. М. Энциклопедия компьютерной алгебры. — 1-е изд., в двух томах. — Москва: ДМК-Медис)
- [159]. Dias, Ronaldo Brêtas de Carvalho, (2005), Direito à jurisdição eficiente e garantia da razoável duração do processo na reforma do judiciário. *Revista Processo*, São Paulo, v. 128, p. 164- 174, out.
- [160]. *Dinamarco, Cândido Rangel, (2009), A Instrumentalidade do processo*. São Paulo: Malheiros, 14ª ed. [S.l.: s.n.]
- [161]. Disorders: a Scoping Review. *Journal of Occupational Rehabilitation*, i—8. <https://doi.org/10.1017/S10926-022->
- [162]. Du Mont, Rosemary Ruhig, (1991), Ethics in librarianship: a management model. *Library Trends*, v. 40, n. 2, p. 201-215.
- [163]. Đurić, J. S., Jovanović, S. Z., & Šibalića, T. V. (2019, August 19). *Robotic Process Automation: Overview and Opportunities*. Retrieved from ResearchGate: [https://www.researchgate.net/publication/332970286\\_ROBOTIC\\_PROCESS\\_AUTOMATION\\_OVERVIEW\\_AND\\_OPPORTUNITIES](https://www.researchgate.net/publication/332970286_ROBOTIC_PROCESS_AUTOMATION_OVERVIEW_AND_OPPORTUNITIES)
- [164]. Edward Snowden. (s.d.). Obtido de Wikipédia: [https://pt.wikipedia.org/wiki/Edward\\_Snowden](https://pt.wikipedia.org/wiki/Edward_Snowden)
- [165]. Electronic Privacy Information Centre (EPIC), Social Networking Privacy: <http://epic.org/privacy/socialnet/default.html>
- [166]. Elless, T., Szerkezeti alapkerdesek a polgari per kapcsan, (2013), *10 Magyar Jog* 614-15.
- [167]. Emerj, 2018. O que é Inteligência Artificial? Uma definição informada. Recuperado de: <https://emerj.com/ai-glossary-terms/what-is-artificial-intelligence-an-informed-definition/>
- [168]. Emerj, 2018. O que é Inteligência Artificial? Uma definição informada. Recuperado de: <https://emerj.com/ai-glossary-terms/what-is-artificial-intelligence-an-informed-definition/>
- [169]. Epstein, R. Roberts, G. Poland, G. 2009. Análise do Teste de Turing: Questões Filosóficas e Metodológicas na Busca do Computador Pensante. Springer: Dordrecht, Holanda

- [170]. Epstein, R. Roberts, G. Poland, G. 2009. *Análise do Teste de Turing: Questões Filosóficas e Metodológicas na Busca do Computador Pensante*. Springer: Dordrecht, Holanda
- [171]. Etkin, J., & Mogilner, C. (2016, August 2). *Does Variety Among Activities Increase Happiness?* Retrieved from Oxford Academic. Journal of Consumer 43(@): <https://doi.org/10.1093/jcr/ucw021>
- [172]. Europa aprovou neutralidade da Internet, mas afinal o que significa isso? (s.d.). Obtido de Sapotek: <https://tek.sapo.pt/noticias/telecomunicacoes/artigos/europa-aprovou-neutralidadeda-internet-mas-afinal-o-que-significa-isso>
- [173]. European Commission, (2012), Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), COM(2012) 11 final. Available at: [http://ec.europa.eu/jus\\_tice/data-protection/document/review2012/com\\_2012\\_11\\_en.pdf](http://ec.europa.eu/jus_tice/data-protection/document/review2012/com_2012_11_en.pdf)
- [174]. ExtendedAutomationtheFutureofWorkSeen through Amazon Patents. *tscience*
- [175]. Fabrício Wloch, (2017), Metodologia Jurídica Da Sentença Cível, Revista do CEJUR/TJSC: Prestação Jurisdicional, v. V, n.01, p. 11-34.
- [176]. Factors that influence new generation candidate to engage with and complete digital, AI-enabled recruiting, *Business Horizons*, 6c(6), 72-739 [https://www.sciencedirect.com/science/article/pii/S000768\\*3\\*930053?casa\\_token=71Zkl2CJnnUAAAAA:P8sgmkTkb62PSa1xUuI272YayVPxlbAd2HvQqEovRLXiLkIGcHgOVf6TgVPuD8TxFbsrb8IUooE](https://www.sciencedirect.com/science/article/pii/S000768*3*930053?casa_token=71Zkl2CJnnUAAAAA:P8sgmkTkb62PSa1xUuI272YayVPxlbAd2HvQqEovRLXiLkIGcHgOVf6TgVPuD8TxFbsrb8IUooE)
- [177]. Fadairo, S., Williams, R., & Maggio, E. (2015). Utilização de análise de dados para supervisão e eficiência. *Jornal de Gestão Financeira do Governo* 64(2): 18-23.
- [178]. Faure, M. (2006). A resolução de problemas nunca foi tão fácil: a mudança transformacional através de um inquérito agradecida. *Melhoria de Desempenho*, 45(9), 22-31, 48.
- [179]. Ferguson, R. W. et al. International financial stability. *Geneva Reports on the World Economy*, Geneva, v.9, 2007.
- [180]. Ferreira Filho, Manoel Gonçalves. *Do processo legislativo*. São Paulo: Saraiva, 2001.
- [181]. Finkelstein, Maria Eugênia, (2011), Direito do Comércio Eletrônico. 2. Ed. Rio de Janeiro: Elsevier.
- [182]. Fisher, I. The debt-deflation theory of great depressions. *Econometrica*, v.14, October 1933.
- [183]. Foley, John P. (s.d.). Ética Na Internet. Obtido de La Santa sede: [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_200202\\_28\\_ethics-internet\\_po.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_200202_28_ethics-internet_po.html)
- [184]. Forni, A. A., & Meulen, R. v. (2017, April 24). *Gartner Survey Shows 42 Percent of CEOs Have Begun Digital Business Transformation*. Retrieved from Gartner: <https://www.gartner.com/en/newsroom/press-releases/2017-04-24-gartner-survey-shows-42-percent-of-ceos-have-begun-digital-business-transformation>
- [185]. Forrester Consulting, (2020). Reveja as principais ideias pela encomenda da IBM. Recuperado <https://www.ibm.com/downloads/cas/WXNYXRGA>
- [186]. Forrester Consulting, 2020. Reveja as principais ideias pela encomenda da IBM. Recuperado <https://www.ibm.com/downloads/cas/WXNYXRGA>
- [187]. Frey, C. B., & Osborne, M. A. (2013, September 17). *The Future of Employment: How susceptible are jobs to computerisations?* Retrieved from Oxfordmartin: [https://www.oxfordmartin.ox.ac.uk/downloads/academic/The\\_Future\\_of\\_Employment.pdf](https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf)
- [188]. Frey, C.B., & Osborne, M.A. (2017) The future of employment: How susceptible are jobs to computerisation? *Technological*
- [189]. G. (2012). An integrated recruitment system for automated personality mining and applicant ranking. *Internet Research*,
- [190]. *Geneva Reports on the World Economy*, Geneva, v.7, 2005.
- [191]. Geyer, W., Dugan, C., Samulowitz, H., Gray, A., Ram, P., & Tausczik, Y. (2021). Humanly
- [192]. GlobeNewsWire, (2021), Mercado de Inteligência Artificial atinge USD 266,92 Bilhões até 2027; Recuperado de: <https://www.globenewswire.com/en/news-release/2021/05/07/2225220/0/en/Artificial-Intelligence-Market-to-Reach-USD-266-92-Billion-by-2027-Increasing-AI-Technology-Users-to-Spur-Market-Growth-Fortune-Business-Insights.html>
- [193]. GlobeNewsWire, 2021. Mercado de Inteligência Artificial atinge USD 266,92 Bilhões até 2027; Recuperado de: <https://www.globenewswire.com/en/news-release/2021/05/07/2225220/0/en/Artificial-Intelligence-Market-to-Reach-USD-266-92-Billion-by-2027-Increasing-AI-Technology-Users-to-Spur-Market-Growth-Fortune-Business-Insights.html>
- [194]. Gonçalves, Maria Eduarda, (2003), Direito da informação: novos direitos e formas de regulação na sociedade da informação. Coimbra: Almedina.
- [195]. Grinover, Ada Pellegrini, Dinamarco, Cândido, Cintra, Antônio Carlos de Araújo. *Teoria Geral do Processo*. São Paulo: Editora Malheiros, 2014, 30ª ed. [S.L.: s.n.]
- [196]. Gruber, T., Kunz, W. H., Lu, V. N., Martins, A., Paluch, S., Patterson, P. G., & Wirtz, J. (2018, September). *Brave new world: Service robots in the frontline*. Retrieved from Journal of Service Management, 29(5), 907–931.: <https://www.emerald.com/insight/content/doi/10.1108/JOSM-04-2018-0119/full/html>
- [197]. Guo, Y., & Ling, B. (2020). Ensuring Employee Task Performance: Role of Employee Engagement. *Performance Improvement*, 59(8), 12–23. <https://doi.org/10.1002/PFI.2112t>
- [198]. Gurkov, Andrey, (2019), Quem é o líder mundial no campo da inteligência artificial? (Гурков, Андрей 2019. Кто мировой лидер в области искусственного интеллекта?) Deutsche Welle
- [199]. Güven Güzeldere; Stefano Franchi, (1995), [Dialogues com personalidades coloridas de ai primitivo](#). Stanford Humanities Review, SEHR, volume 4, edição 2: Construções da Mente. [Universidade de Stanford](#).
- [200]. Güven Güzeldere; Stefano Franchi. 1995. [Dialogues com personalidades coloridas de ai primitivo](#). Stanford Humanities Review, SEHR, volume 4, edição 2: Construções da Mente. [Universidade de Stanford](#).
- [201]. Gyekiczky, T., *Befordtva - Leveltari iratok a jogpolitikarol, a birságokról, es a biraskodas lehetosegeirol a, Kadar" korszakban (1958-1990)* (Virando para dentro - Documentos de arquivo sobre legal política, tribunais e as possibilidades de adjudicação durante a era Kadar (1958-1990) (Patrocinium 2016).
- [202]. Gyekiczky, T., Torveny sziietik. Adalekok az 1952. evi polgari perrendtartas keletkezésenek tortenetehez. (Egy leveltari kutatás előzetes tapasztalatai). (O nascimento de um ato de direito. Informações adicionais sobre a história da elaboração do Código de Procedimento Civil de 1952./A experiência anterior de uma pesquisa de arquivo/) em Wopera, Zs.(ed), *50 éves a polgari perrendtartas*. (Novotni Kiadó 2003).
- [203]. Gyekiczky, T., *Helyzetjelentés (Leveltari iratok polgari eljárásjogunk történetéből)* (Relatório de progresso/ Documentos de arquivo da história da nossa lei processual civil/) (Gondolat 2006).
- [204]. Habermas, J., (2006), Técnica e Ciência como 'ideologia'. Lisboa: 70.
- [205]. Habermas, Jürgen, (2002), Historia y crítica de la opinión pública. La transformación estructural de la vida pública. Barcelona: Gustavo Gili.



- [206]. Habermas, Jürgen, (2007), *Mudança estrutural da esfera pública* investigações sobre uma categoria da sociedade burguesa. Tradução de Habermas, Jürgen, (2002), *Historia y crítica de la opinión pública. La transformación estructural de la vida pública*. Barcelona: Gustavo Gili.
- [207]. Hair, J.F. (2007), "Criação de conhecimento no marketing: o papel da análise preditiva", *European Business Review*, Vol. 19 No. 4, pp. 303-315. <https://doi.org/10.1108/09555340710760134>
- [208]. Hammerman, Robin, Russell, Andrew, (2016), *Legado de Ada: Culturas de Computação do Vitoriano à Era Digital*. Associação de Máquinas Computadoras e Editoras Morgan & Claypool.
- [209]. Hartzler, H. Richard (1976). *Justice, Legal Systems, and Social Structure*. Port Washington, NY: Kennikat Press.
- [210]. Haugeland, John. 1985. *Inteligência Artificial: A Própria Ideia*. Cambridge, Mass.: MIT Press.
- [211]. Haugeland, John. 1985. *Inteligência Artificial: A Própria Ideia*. Cambridge, Mass.: MIT Press.
- [212]. Haugeland, J. (ig8g). *Arti/cinfintelli { fence:fireveryidea.MITpress.https://books.google.com/books?hl=en&lr=&id=zLFSPdIuqKsC&oi=fnd&pg=PPg&q=Haugeland+(ig85)+ai&ots=iNFXCmMDD7&sig=2ugCorxs8LkvnovaZAenn394Fw*
- [213]. Hebb, D.O. 1949. A organização do comportamento. Recuperado de: <https://psycnet.apa.org/record/1950-02200-000>
- [214]. Higgins, M. (2020, July 3). *How Intelligent Automation Is Revolutionizing The Business World*. Retrieved from Forbes Technology Council: <https://www.forbes.com/sites/forbestechcouncil/2020/07/03/how-intelligent-automation-is-revolutionizing-the-business-world/?sh=24df4812344a>
- [215]. Hines, A. & Gold, J. (2014). Um papel futurista organizacional para integrar a previsão nas corporações. *Previsão Tecnológica e Mudança Social* 101 (2015) 99-111. Recuperado de: <https://pdfs.semanticscholar.org/292f/344fb0ea9f51e2c993d07b5239f840d05908.pdf>
- [216]. Hingston, Philip. 2009. Um teste de turing para bots de jogo (PDF). IEEE Transações sobre Inteligência Computacional e IA em Jogos.
- [217]. Hingston, Philip. 2009. Um teste de turing para bots de jogo (PDF). IEEE Transações sobre Inteligência Computacional e IA em Jogos.
- [218]. Hinshelwood, R.D. 2001. Mentalidade de Grupo e Ter uma Mente: Reflexões sobre o trabalho de Bion sobre grupos e psicose. Recuperado de: <https://www.brianwilliamson.id.au/cit/level1/experiential/GroupMentality.pdf>
- [219]. Hinshelwood, R.D. 2001. Mentalidade de Grupo e Ter uma Mente: Reflexões sobre o trabalho de Bion sobre grupos e psicose. Recuperado de: <https://www.brianwilliamson.id.au/cit/level1/experiential/GroupMentality.pdf>
- [220]. Historianet. (s.d.). Obtido de A Declaração de Independência dos EUA: <http://www.historianet.com.br/conteudo/default.aspx?codigo=214>
- [221]. Hobbes 2020: "Um ensaio político sobre o Contrato Social & uma atualização moderna ao Leviathan de Hobbes". Edição Kindle
- [222]. Hobbes 2020: "Um ensaio político sobre o Contrato Social & uma atualização moderna ao Leviathan de Hobbes". Edição Kindle
- [223]. Holm, A. B. (2012). E-recruitment:
- [224]. Horizontes de Negócios, 2019. Siri, Siri, na minha mão: quem é a mais bela da terra? Sobre as interpretações, ilustrações e implicações da inteligência artificial. Volume 62, Edição 1. Recuperado de: <https://www.sciencedirect.com/science/article/abs/pii/S0007681318301393>
- [225]. Hugh, S. (2017). *JP Morgan Software Does in Seconds What Took Lawyers 360,000 Hours*. Retrieved from Bloomberg: <https://www.bloomberg.com/news/articles/2017-02-28/jpmorgan-marshals-an-army-of-developers-to-automate-high-finance>
- [226]. Hurtado, P.S., & Mukherji, A. (2015). Desenvolver uma construção da flexibilidade cognitiva do líder - uma abordagem interdisciplinar. *Estudos da Competitividade*, 23(1/2), 3-12.
- [227]. Hutter, Marcus. 2020. Concurso de Compressão do Conhecimento Humano. Recuperado de: <http://prize.hutter1.net/>
- [228]. Hutter, Marcus. 2020. Concurso de Compressão do Conhecimento Humano. Recuperado de: <http://prize.hutter1.net/>
- [229]. IEEE Std. 2755. (2017, September 28). *IEEE Guide for Terms and Concepts in Intelligent Process Automation*. Retrieved from IEEE Xplore: 10.1109/IEEESTD.2017.8070671
- [230]. Ignazio Visco é vice-diretor geral do Banca d'Italia. Foi economista-chefe da Organização para Cooperação e Desenvolvimento Econômico (OCDE). @-[bancaditalia@pec.bancaditalia.it](mailto:bancaditalia@pec.bancaditalia.it)
- [231]. *Il ruolo dell'econometria nell'ambito delle scienze economiche*. Bologna: il Mulino, 1991. [Recebido em 24.5.2009 e aceito em 26.5.2009.
- [232]. Instituto de Gestão de Projetos. (2017). *Guia para o corpo de gestão de projetos de conhecimento (PMBOK® Guide) (6ª ed.)*. Newtown Square, PA: Instituto de Gestão de Projetos.
- [233]. *intelligenceforHR: Use AI to support and develop a successful workforce*. Kogan Page Publishers. <https://books.google.com/books?hl=en&lr=>
- [234]. Internet World Stats. (n.d.). Retrieved from INTERNET USAGE STATISTICS - The Internet Big Picture: <http://www.internetworldstats.com/stats.htm>
- [235]. Bidwell, M. (2011). Paying more to get less: The effects of external hiring versus internal mobility. *Administrative Science Quarterly*, 56(3), 366-407.
- [236]. Iovan, S. (2017). Análise preditiva para a indústria de transportes. *Jornal de Gestão de Sistemas de Informação e Operações*, 58-71.
- [237]. Irish Data Protection Commissioner, (2009), Case Study 1: Disclosure of personal data due to inappropriate security measures. Available at: [www.dataprotection.ie/viewdoc.asp?DocID=1068#1](http://www.dataprotection.ie/viewdoc.asp?DocID=1068#1)
- [238]. Irish Data Protection Commissioner, (2011), Facebook Ireland Ltd – Report of Audit. Available at: [http://europe-v-facebook.org/Face book\\_Ireland\\_Audit\\_Report\\_Final.pdf](http://europe-v-facebook.org/Face%20book%20Ireland%20Audit%20Report%20Final.pdf)
- [239]. ISO/IEC 29100, (2011), Information Technology, Security Techniques, Privacy Framework. International Standard.
- [240]. Izrailevsky, Y., Vlaovic, S., & Meshenberg, R. (2016, February 11). *Innovation*. Retrieved from Netflix: <https://about.netflix.com/en/news/completing-the-netflix-cloud-migration>
- [241]. J., Parker, S.K., & Sung, L.K. (2018). The effect of employee engagement and self-efficacy on job performance: a longitudinal field study. *International Journal of Human Resource Management*, 31(1), 2483-52. <https://doi.org/10.1080/0958512.2016.1244086>
- [242]. Jacques, Paulino, (1957, p. 30), Da igualdade perante a lei (Fundamento, conceito e conteúdo). 2ª ed. Rio de Janeiro: Revista Forense.
- [243]. Japiassu, Hilton, (1984, p.3-5), A epistemologia do "novo espírito científico": da criação científica ou da razão aberta. São Paulo, Folhetim da Folha de São Paulo, 1º de julho de
- [244]. Japiassu, Hilton. (1977, p. 202) Introdução ao pensamento epistemológico. 2 ed. Rio de Janeiro, Francisco Alves.
- [245]. Japiassu, Hilton. Interdisciplinaridade e patologia do saber. Rio de Janeiro: Imago, 1975. 221p. (Série Logoteca) Strauss, J. D.; Radnor, M. Roadmapping for Dynamic and Uncertain Environments. *Research Technology Management*, v. 47, n. 2, p. 51, 2004.



- [246]. Japiassu, Hilton; Marcondes, Danilo, (1991. 265 p), Dicionário básico de filosofia. 2 ed. revista. Rio de Janeiro: Zahar.
- [247]. JarrahiMH. (2018). Artificialintelligenceandthefutureofwork:Human-
- [248]. Jiang, X.; Hong, J.; Landay, J., (2002), Approximate Information Flows: socially-based modeling of privacy in ubiquitous computing. In: International Conference of Ubiquitous Computing,4., 2002, Göteborg, Sweden. Proceedings [...]. Göteborg, Sweden.
- [249]. Johnson, Marc. Liber, Oleg. 2006. Ambientes de Aprendizagem Pessoal. Escola de Ciências da Computação, Universidade de Manchester. Recuperado de: [https://www.researchgate.net/publication/220095391\\_Personal\\_Learning\\_Environments](https://www.researchgate.net/publication/220095391_Personal_Learning_Environments)
- [250]. Johnson, Marc. Liber, Oleg. 2006. Ambientes de Aprendizagem Pessoal. Escola de Ciências da Computação, Universidade de Manchester. Recuperado de: [https://www.researchgate.net/publication/220095391\\_Personal\\_Learning\\_Environments](https://www.researchgate.net/publication/220095391_Personal_Learning_Environments)
- [251]. Jornada De Direito Civil, (2013), Enunciados aprovados na IV Jornada de Direito Civil. Disponível em: <[http://www.migalhas.com.br/arquivo\\_artigo/art20130607-02.pdf](http://www.migalhas.com.br/arquivo_artigo/art20130607-02.pdf)>. Acesso em: 03 nov. 2016. \_\_\_\_\_. Direito e Democracia: entre facticidade e validade, vol. I Jürgen Habermas. Trad. Flávio Beno Siebeneicher. Rio de Janeiro: Ed. Tempo Brasileiro, 1997.
- [252]. Jovem Tom, Devamanyu Hazarika, Soujanya Poria, Erik Cambria. 2018. Tendências recentes no Processamento de Linguagem Natural Baseada em Aprendizagem Profunda. Recuperado de: <https://arxiv.org/abs/1708.02709>
- [253]. Jovem Tom, Devamanyu Hazarika, Soujanya Poria, Erik Cambria. 2018. Tendências recentes no Processamento de Linguagem Natural Baseada em Aprendizagem Profunda. Recuperado de: <https://arxiv.org/abs/1708.02709>
- [254]. Jovino Pizzi, (2017), A Justiça Judicializada: A Primazia Do Direito Positivo, <http://dx.doi.org/10.21728/logeion.2017v4n1.p21-35>
- [255]. JP Morgan. (2021). *Digitization a Game Changer for Cash Management*. Retrieved from LIQUIDITY MANAGEMENT: <https://www.jpmorgan.com/solutions/treasury-payments/insights/digitization-cash-management>
- [256]. Kamar, Ece. 2021. Direções em Inteligência Híbrida: Complementar sistemas de IA com Inteligência Humana. Recuperado de: <https://www.microsoft.com/en-us/research/wp-content/uploads/2016/11/hi.pdf>
- [257]. Kamar, Ece. 2021. Direções em Inteligência Híbrida: Complementar sistemas de IA com Inteligência Humana. Recuperado de: <https://www.microsoft.com/en-us/research/wp-content/uploads/2016/11/hi.pdf>
- [258]. Kant. (Julho de 2005), A dignidade da pessoa humana no pensamento de Kant.
- [259]. Kelsen, Hans, (1962, p. 190), **Teoria Pura do Direito**. Pariz, Dalloz.
- [260]. Kelsen, Hans, (2003), **Fundamentos da democracia**. p. 190 apud BARZOTTO,
- [261]. Kempin, Jr., Frederick G. (1963). *Legal History: Law and Social Change*. Englewood Cliffs, NJ: Prentice-Hall.
- [262]. Kerzner, H. (2013). *Gestão de Projetos: Uma Abordagem de Sistemas de Planejamento, Agendamento e Controle, 11ª Edição*. [Estante Online]. Recuperado de: <https://online.vitalsource.com/#/books/9781118022276/>
- [263]. Kettemann, Matthias C., (2012), 5 punchy principles for regulating the internet. Available at: <http://internationallawandtheinternet.blog.spot.co.at/2012/07/5-punchyprinciples-for-regulating.html?pref=fb>
- [264]. Keynes, J. M. On the economic possibilities of our grand-children. *Nation and Atheneum; TheSaturdayEvening Post*,1930.
- [265]. Keynes,J.M.Prospectiveeconomicheperinostripoti. In: \_\_\_\_\_. Esortazioni e profezie.Milano:Il Saggiatore, 1968.
- [266]. Kitchener, K. (2022). Skills, tasks, anddefinitions:Discrepanciesintheunderstandingand data on the developmentof folk epistemology. *New Ideas in*
- [267]. Klein, F.: *Pro futuro: Betrachtungen iiber Probleme der Civilprocej3reform em 6sterreich*, (Deuticke 1891).
- [268]. Kobler, F., *Az allitási erdek szabalyai: tekintettel a magyar polgari perrendtartas torvenyjavaslatara*, (Interesse de Alegação de Factos No que diz respeito à Lei do Procedimento Civil) (Franklin-Tarsulat 1901).
- [269]. Koskimies,E.,&Kinder,T.(2022).Mutuality in AI-enabled new public servicesolutions.*PublicManagementSeries*,i—26.
- [270]. La teoria delle grandi depressioni basate sui debiti e sulla deflazione. In: PAPI, G. U.(Org.)Mercatomonetario. Turim:UTET, 1935.v.VIII.
- [271]. Lazzaretti,L.,Innocenti,N.,Nannelli,M.,&Oliva,S.(2022).Theemergenceofartificial intelligence in the regionalsciences: aliteraturereview.*EuropeanPlanning Studies*, i—21.<https://doi.org/10.1080/og654313.2022.2101880>
- [272]. Leal, Rosemiro Pereira (coordenação), *Coisa julgada: de Chiovenda a Fazzalari*, Del Rey, 2007.
- [273]. Lei Constitucional n.º 1/92 de 25 de NOVEMBRO . (n.d.). Retrieved from Comissão Nacional de Eleições: [http://www.cne.pt/sites/default/files/dl/crp\\_1992.pdf](http://www.cne.pt/sites/default/files/dl/crp_1992.pdf)
- [274]. Lei da Protecção de Dados Pessoais. (s.d.). Obtido de Comissão Nacional de Protecção de Dados: [https://www.cnpd.pt/bin/legis/nacional/lei\\_6798.htm](https://www.cnpd.pt/bin/legis/nacional/lei_6798.htm)
- [275]. Lei do Cibercrime. (s.d.). Obtido de Procuradoria Geral Distrital de Lisboa: [http://www.pgdlisboa.pt/leis/lei\\_mostra\\_articulado.php?nid=1137&tabela=leis](http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1137&tabela=leis)
- [276]. Lei n.o 43/2004, de 18 de Agosto, Lei de organização e funcionamento da Comissão Nacional de Protecção de Dados. (s.d.). Obtido de Comissão Nacional de Protecção de Dados: [https://www.cnpd.pt/bin/cnpd/Lei\\_43\\_2004.pdf](https://www.cnpd.pt/bin/cnpd/Lei_43_2004.pdf)
- [277]. Lei n.o 67/98 - Lei da Protecção dos Dados Pessoais. (s.d.). Obtido de Diário da República Electrónico: <https://dre.pt/application/file/a/239889>
- [278]. Leicht-Deobald, U.,Busch, T.,Schank,C.,Weibel, A.,Schafheitle, S.,Wildhaber, I.,&Kasper,G.(20ig).TheChallengesofAlgorithm-BasedHRDecision-MakingforPersonalIntegrity.*JournalofBusinessEthiCS*, 16O(2), 377392.
- [279]. Lewis, P., Sauders, M., & Thornhill, A. (2019). *Research Methods for Business Students. 8th edition*. . Retrieved from Harlow, United Kingdom; New York: Pearson.
- [280]. Li, B., J.,Yao, C.,Zheng, F.,Wang, L.,Dai,J.,&Xiang,Q.(2021).IntelligentDecisionSupportSystemforBusinessForecastingUsingArtificialIntelligence.*ArabianJournalfor ScienceandEngineering*,i—ii.
- [281]. Liberatore, M.J., Pollack-Johnson, B., & Clain, S. H. (2017). Capacidades de análise e a decisão de investir em análise. *O Journal of Computer Information Systems*, 57(4), 364-373. doi:<http://dx.doi.org/10.1080/08874417.2016.1232995> SAS. (2017). O SAS. Recuperado de: [https://www.sas.com/en\\_us/insights/analytics/predictive-analytics.html#dmusers](https://www.sas.com/en_us/insights/analytics/predictive-analytics.html#dmusers)
- [282]. Locke, John, (2013), Segundo tratado sobre o governo civil. São Paulo: Edipro.
- [283]. Lojkine, Jean, (1995), A Revolução Informacional. São Paulo: Cortez Editora.
- [284]. Lopes, S. D., Prentice, C., & Wang, X. (2019, August 14). *Emotional intelligence or artificial intelligence– An employee perspective*. Retrieved from Journal of Hospitality Marketing & Management, 1–27: <https://www.tandfonline.com/doi/full/10.1080/19368623.2019.1647124>
- [285]. Luis Fernando, (2003), A democracia na constituição. Editora Unisinos.
- [286]. Lunardl, Soraya Gasparetto. *Processo*. In Dicionário brasileiro de direito constitucional. São Paulo: Saraiva, 2007, p. 302-303.
- [287]. M.A. (2022). Blockchain in human resourcemanagement:asystematicreviewandbibliometricanalysis.*HRM lerieit,i8(i)*,

- [288]. Makridakis, S. (2017) The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 90, 46–60.
- [289]. Malanczuk, Peter, (2009), Data, Transboundary Flow, International Protection. In: Max Planck Encyclopaedia of Public International Law. Available at: [www.mpepil.com/subscriber\\_article?script=yes&id=epil/entries/law-9780199231690-e771&recno=125&searchType=Advanced&subject=Human+rights](http://www.mpepil.com/subscriber_article?script=yes&id=epil/entries/law-9780199231690-e771&recno=125&searchType=Advanced&subject=Human+rights)
- [290]. Maluf, V. (2017 de Setembro de 14). A censura mecanizada das redes sociais que ameaça universo das artes. Obtido de Portal IG: <http://gente.ig.com.br/cultura/2017-09-14/censura-redessociais.html>
- [291]. Marcondes, D., (2009), Textos básicos de ética: de Platão a Foucault. Rio de Janeiro: Zahar.
- [292]. Maria Anita Araruna Corrêa, (2013, V.1 • N.2 • p. 19-28), Breve Análise Sobre O Fenômeno Da Judicialização Da Política E A Sua Repercussão Sobre As Relações Externas, Interfaces Científicas - Direito • Aracaju .
- [293]. Marie-Luce Cavois, Hubert Dalle, Jean-Paul Jean, (2002), La qualité de la Justice, la Documentation Française.
- [294]. Max Planck Encyclopaedia of Public International Law: [www.mpepil.com](http://www.mpepil.com)
- [295]. McCorduck, Pamela, 2004. *Machines Who Think* (2<sup>o</sup> ed.), Natick, MA: A. K. Peters, Ltd
- [296]. McCorduck, Pamela, 2004. *Machines Who Think* (2<sup>o</sup> ed.), Natick, MA: A. K. Peters, Ltd
- [297]. McCulloch, Warren, Pitts, Walter. 1943. Um cálculo lógico das ideias imanentes na atividade nervosa. Recuperado de: <https://link.springer.com/article/10.1007/BF02478259>
- [298]. McKendrick, J. (2018, August 14). *Artificial intelligence will replace tasks, not jobs*. Retrieved from Forbes: <https://www.forbes.com/sites/joemckendrick/2018/08/14/artificial-intelligence-will-replace-tasks-not-jobs/?sh=63feb9e5a7fa>
- [299]. McKinstry, Chris. 2019. Teste mínimo de sinal inteligente: um teste de turing alternativo. Inteligência Artificial Canadiana #41
- [300]. McKinstry, Chris. 2019. Teste mínimo de sinal inteligente: um teste de turing alternativo. Inteligência Artificial Canadiana #41
- [301]. Medsker L.R. 1995. Sistemas Inteligentes Híbridos. — Boston: Kluwer Academic Publishers
- [302]. Medsker L.R. 1995. Sistemas Inteligentes Híbridos. — Boston: Kluwer Academic Publishers
- [303]. Mello, Celso Antônio Bandeira, (1998 p. 10), O conteúdo jurídico do princípio da igualdade. 3<sup>a</sup> ed. São Paulo: Editores Malheiros..
- [304]. Mendling, J., Decker, G., Hull, R., Reijers, H. A., & Weber, I. (2019). How do machine learning, robotic process
- [305]. Mercury learning and information. <https://books.google.com/books?hl=en&lr=&id=ej4QBAJ&oi=fnd&pg=PT23dq>
- [306]. Millett, S. M. (2006). Futuring e visionamento: Abordagens complementares à tomada de decisões estratégicas. *Estratégia e Liderança*, 34(3), 43-50. doi:<http://dx.doi.org.proxy.cecylibrary.com/10.1108/10878570610660591>
- [307]. Millett, S. M. (2011). Cinco princípios de futuring como história aplicada. *O futurista*, 45(5), 39-41.
- [308]. Miranda, Jorge, (2000), Manual de Direito Constitucional: Tomo IV Direitos Fundamentais. 3<sup>a</sup> ed. Coimbra.
- [309]. Mischel, L., Schmitt, J., & Shierholz, H. (2013). *Assessing the job polarization explanation of growing wage inequality*. Retrieved from Working Paper, Economic Policy Institute, University of California, Berkeley.
- [310]. Morgan, J. (2017, March 10). *Why the Millions We Spend on Employee Engagement Buy Us So Little*. Retrieved from Harvard Business Review: <https://hbr.org/2017/03/why-the-millions-we-spend-on-employee-engagement-buy-us-so-little>
- [311]. Moriones, A., & Ortin-Angel, P. (2006). Internal promotion versus external recruitment in industrial plants in Spain. *Industrial and Labor Relations Review*, 59(3), 45-1—47
- [312]. Mozammel, S., & Haan, P. (2016). Liderança Transformacional e envolvimento dos colaboradores no setor bancário no Bangladesh. *O Journal of Development Areas*, 50(6), 43-55. Recuperado de <https://proxy.cecylibrary.com/login?url=https://search.proquest-com.proxy.cecylibrary.com/docview/1805278813?accountid=144778>
- [313]. Murphy, Cornelius F. (1977). *Introduction to Law, Legal Process, and Procedure*. St. Paul, MN: West Publishing.
- [314]. Murphy, Paul Austin. 2020. Alan Turing acreditava que a pergunta "As máquinas podem pensar?"
- [315]. Navarro, Ana Maria Neves de Paiva, (2014), Privacidade Informacional: origem e Fundamentos no Direito Norte-Americano. Disponível em < <http://www.publicadireito.com.br/artigos/?cod=34f9a343f945196b>>. Acesso em 01.Dez.2014
- [316]. Negnevitsky M. 2005. Inteligência Artificial. Um guia para sistemas inteligentes. — Harlow, Inglaterra: Addison-Wesley.
- [317]. Neves, Castanheira. (1975, vol. VI, p.260), **Justiça e Direito**. Boletim da Faculdade de Direito da Universidade de Coimbra.
- [318]. Ney JR, Joseph, (2002), O Paradoxo do poder Americano: por que a única potência do mundo não pode seguir isolada. São Paulo: Unesp.
- [319]. Niemietz v (1992), Tribunal Europeu de Direitos Humanos, Alemanha, 72/1991/324/369, seção 29, julgado em 16 de dezembro de 1992.
- [320]. Nissenbaum, Helen, (2011, p.32-48), "A contextual approach to privacy online". In: *Journal of the American Academy of Arts & Sciences*, Vol.140, No. 4.
- [321]. Nissenbaum, Helen, (2010), Privacidad amenazada. Tecnología, política y la integridad de la vida social. México: Oceano.
- [322]. Nohara / Marrara. *Processo administrativo. Lei n. 9.784/99 comentada*. São Paulo: Atlas, 2009.
- [323]. Northouse, P.G. (2016). *Liderança: Teoria e Prática, Sétima Edição*. SAGE Publications, Inc.
- [324]. Nowak, Manfred, (2005), CCPR Commentary, Art. 17 CCPR. Kehl: N.P. Engel Verlag.
- [325]. Nunes, Elpidio Donizetti. *Curso didático de Direito Processual Civil*. 14. ed. São Paulo: Atlas, 2010.
- [326]. O Cilindro de Ciro (539 a.C.). (s.d.). Uma Breve História dos Direitos Humanos - Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/> O que é a neutralidade da rede? (s.d.). Obtido de Observador: <http://observador.pt/explicadores/com-o-fim-da-neutralidade-da-rede-nos-eua-a-internet-esta-em-risco/>
- [327]. O Livro de Recortes de Internet de Alan Turing, 1950. O teste de Turing de 1950. Recuperado de: <https://www.turing.org.uk/scrapbook/test.html>
- [328]. OAS, (2012), Press release - Freedom of expression rapporteurs issue joint declaration concerning the internet. Available at: [www.oas.org/en/iachr/expression/showarticle.asp?artID=848&IID=1OECD](http://www.oas.org/en/iachr/expression/showarticle.asp?artID=848&IID=1OECD): [www.oecd.org/](http://www.oecd.org/)
- [329]. OBSTFELD, M.; ROGOFF, K. Perspectives on OECD economic integration: implications for U.S. current account adjustment (e "Commentary" de I. Visco). In: *Global economic integration: opportunities and challenges*. Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 2000. Disponível em: <<http://www.kc.frb.org/publicat/sympos/2000/sym00prg.htm>>
- [330]. Onik, M., Miraz, M., & Kim, C. (2018). A recruitment and human resource
- [331]. ONU - Nações Unidas nos Brasil. (s.d.). Obtido de Declaração Universal dos Direitos Humanos: <http://www.onu.org.br/img/2014/09/DUDH.pdf>
- [332]. Orbis Latinus. (n.d.). Retrieved from Magna Carta Libertatum (1215) : [http://www.orbilat.com/Languages/Latin/Texts/06\\_Medieval\\_period/Legal\\_Documents/Magna\\_Carta.html](http://www.orbilat.com/Languages/Latin/Texts/06_Medieval_period/Legal_Documents/Magna_Carta.html)
- [333]. Orth, M. A., (2002), Experiências teóricas e práticas de formação e capacitação de professores em Informática da Educação. Porto Alegre: UFRGS, 2002. Tese (Doutorado em Educação) – Programa de Pós-Graduação em Educação, Faculdade de Educação, Universidade Federal do Rio Grande do Sul, Porto Alegre.
- [334]. Otero, Cleber Sanfelici; Tena, Lucimara Plaza, (2016), Fundamentos que justificam os Direitos de Privacidade: A Dignidade Humana como núcleo pétreo dos Direitos da Personalidade e situações na Odontologia que permitem uma flexibilização (Cadastro e

- ficha de anamnese). In: Revista Eletrônica do Curso de Direito da UFSM, v. 11, n.2/ 2016, p. 481. Disponível em: <<https://periodicos.ufsm.br/revistadireito/article/view/19683/pdf#WROKJogrLIV>>. Acesso em: 10 mai. 2017.
- [335]. Ozge, D. (2020, January ). *Robot Process Automation (RPA) and Its Future*. Retrieved from Research Gate: 10.4018/978-1-7998-1125-1.ch021
- [336]. Pacto Internacional dos Direitos Econômicos, Sociais E Culturais. (s.d.). Obtido de Direção Geral da Educação: [http://www.dge.mec.pt/sites/default/files/ECidania/educacao\\_para\\_a\\_Defesa\\_a\\_Seguranca\\_e\\_Paz/documentos/pacto\\_internacion\\_al\\_sobre\\_direitos\\_economicos\\_sociais\\_culturais.pdf](http://www.dge.mec.pt/sites/default/files/ECidania/educacao_para_a_Defesa_a_Seguranca_e_Paz/documentos/pacto_internacion_al_sobre_direitos_economicos_sociais_culturais.pdf)
- [337]. Pacto Internacional sobre os Direitos Civis e Políticos. (s.d.). Obtido de Comissão Nacional de Eleições: [http://www.cne.pt/sites/default/files/dl/2\\_pacto\\_direitos\\_civis\\_politicos.pdf](http://www.cne.pt/sites/default/files/dl/2_pacto_direitos_civis_politicos.pdf)
- [338]. Padoa Schioppa, T. The crisis in perspective: the cost to be quiet. *International Finance*, v,11,n.3,Winter 2008.
- [339]. Pagianas Personales, 2022. Calculadora Universal de Leibnitz . Recuperado de: [https://paginaspersonales.deusto.es/airibar/ed\\_digital/inf/intro/Calc\\_universal.html](https://paginaspersonales.deusto.es/airibar/ed_digital/inf/intro/Calc_universal.html)
- [340]. Pagianas Personales, 2022. Calculadora Universal de Leibnitz . Recuperado de: [https://paginaspersonales.deusto.es/airibar/ed\\_digital/inf/intro/Calc\\_universal.html](https://paginaspersonales.deusto.es/airibar/ed_digital/inf/intro/Calc_universal.html)
- [341]. Pereira, Marcelo Cardoso, (2011), *Direito à Intimidade na Internet*. Curitiba: Juruá.
- [342]. PersonnelFileManagement.*AdvancesinIntelligentSystemsandComputing*,134*AISC*, 793—800, persuasion.London:MacMillan, 1933.
- [343]. Petição de Direito (1628). (s.d.). Uma Breve História dos Direitos Humanos - Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-arehuman-rights/brief-history/magna-carta.html>
- [344]. Platão. (2014), *A República*. Coleção Os Pensadores. São Paulo: Ed. Abril.
- [345]. Pollach, I. (2007), Privacy statements as a means of uncertainty reduction in www interaction. In: Clarke, S. End User Computing Challenges and Technologies: emerging tools and applications. [S.l]: IGI Global.
- [346]. *Pontes De Miranda*, Francisco Cavalcanti, *Comentários ao Código de Processo Civil*, Vol I, Forense, 1973
- [347]. PORTES, R. Global imbalances. In: DEWATRIPONT, X. et al. (Org.) *Macroeconomic stability andfinancialregulation:keyissuesfortheG20*. Voxebook,2009. Disponível em:
- [348]. Powers, David M. W. 2022. O Teste Total de Turing e o Prémio Loebner. Recuperado de: <https://aclanthology.org/W98-1235/>
- [349]. Powers, David M. W. 2022. O Teste Total de Turing e o Prémio Loebner. Recuperado de: <https://aclanthology.org/W98-1235/>
- [350]. Prahalad, C. F. & Gary Hamel (1995). *La Conquête du Futur*. Inter Editions, Paris.
- [351]. Prasad, B., & Junni, P. (2016). Liderança transformadora e transaccional do CEO e inovação organizacional. *Decisão de Gestão*, 54(7), 1542-1568. Recuperado de <https://proxy.cecylibrary.com/login?url=https://search-proquest-com.proxy.cecylibrary.com/docview/1809013503?accountid=144778>
- [352]. Radbruch. Cfr. Os nossos Estudos fil. E hist. Sobre Epistemologia Jurídica, vol. II;
- [353]. Radbruch. Cfr., ( vol. II, p. 100), Os nossos Estudos fil. E hist. Sobre Epistemologia Jurídica.
- [354]. Raimundo, João Pedro Sargaço Dias, (2012), Uma nova frente da proteção de dados pessoais: a (im)possibilidade de assegurar um eventual direito ao esquecimento. Julho de 2012. 70p. Dissertação. Faculdade de Direito Universidade de Porto. Porto.
- [355]. Rajan, R. Has financial development made the world riskier? In: The Greenspan Era: lessonsforthefuture.FederalReserveBankofKansasCity,JacksonHole,Wyoming,August2005.
- [356]. Ransbotham, S., Kiron, D., & Prentice, P. K. (2015). Cuidando da analítica aap. *MIT Sloan Management Review*, 56(3), 63-68.
- [357]. *Raphael Nascimento. ( 2017). O que é o Direito processual civil, www.projuris.com.br/direito-processual-civil Acesso em: 2022-01-15,*
- [358]. Rawls, John, (2002 p. 33-34, 64-66), *Uma teoria da justiça*. 2ª Ed. São Paulo: Martins Fontes.
- [359]. Reinaldo Filho, Demócrito Ramos, (2002), A privacidade na “sociedade da informação”, In: *Direito da Informática: temas polémicos, coordenado pelo mesmo autor*. Bauru: Edipro.
- [360]. Reinaldo Filho, Demócrito, (2005), *Responsabilidade por publicações na Internet*. Rio de Janeiro: Forense.
- [361]. Relatório diz que liberdade na internet cai pelo sétimo ano consecutivo no mundo. (14 de Novembro de 2017). Obtido de Diário de Notícias: <http://www.dnoticias.pt/mundo/relatorio-dizque-liberdade-na-internet-cai-pelo-setimo-ano-consecutivo-no-mundo-FA2354557>
- [362]. *RivistaItalianadegliEconomisti*,v.2,agosto2000.
- [363]. Roberts, Jacob. 2016. Máquinas de Pensamento: A Procura de Inteligência Artificial. *Destilações*. 2 (2).
- [364]. Roberts, Jacob. 2016. Máquinas de Pensamento: A Procura de Inteligência Artificial. *Destilações*. 2 (2).
- [365]. Rrews, C. (2017). A ferramenta certa para a tarefa impossível. *Gestão de Tecnologia de Investigação*, 60(6), 48-49. doi:<http://dx.doi.org/10.1080/08956308.2017.1373051>
- [366]. Russell,S.J.,&Norvig,P.(2010).*Arfi/ciofintelligence : a modern approach*.PearsonSeriesinArtificialIntelligence.
- [367]. *Russell, Stuart J.&Norvig, Peter*. 2003. *Inteligência Artificial: Uma Abordagem Moderna* (2ª ed.), Upper Saddle River, Nova Jersey: Prentice Hall
- [368]. *Russell, Stuart J.&Norvig, Peter*. 2003. *Inteligência Artificial: Uma Abordagem Moderna* (2ª ed.), Upper Saddle River, Nova Jersey: Prentice Hall
- [369]. Sá, António Lopes, (2007), *Ética profissional*. São Paulo: Atlas.
- [370]. SACCOMANNI, F. *Managing international financial instability: national tamers versus globaltigers*.Chatenham (UK): EdwardElgar, 2008.
- [371]. Saco, S. (2016). Abordagem Fuzzy VIKOR para seleção de analista de big data na gestão de aquisições. *Journal of Transport and Supply Chain Management*, 10(1), doi:<http://dx.doi.org/10.4102/jtscm.v10i1.230>
- [372]. Salem, I. E. (2015). Liderança Transformacional: Relação com o stress do emprego e burnout de emprego em hotéis de cinco estrelas. *Investigação em Turismo e Hotelaria*, 15(4), 240-253. <http://dx.doi.org.proxy.cecylibrary.com/10.1177/1467358415581445>
- [373]. Salles, Carlos Alberto de, (2011, pgs. 13 a 27), *Arbitragem em contratos administrativos*. Rio de Janeiro: Forense; São Paulo: Método,
- [374]. Sampaio, José Adércio Leite, (1998), *Direito à intimidade e à vida privada*. Belo Horizonte: Del Rey.
- [375]. Santos, Milton, (2013), *Técnica, Espaço e Tempo: Globalização e Meio Técnico-científico-informacional*. 5. ed. 1. reimpr. – São Paulo: Editora da Universidade de São Paulo.
- [376]. Schickard 1623 - A primeira calculadora mecânica - informações sobre design e utilização da Calculadora Schickard a partir de 1623. Recuperado de: <http://www.jepu.info/schickard/english.html>
- [377]. Schickard 1623 - A primeira calculadora mecânica - informações sobre design e utilização da Calculadora Schickard a partir de 1623. Recuperado de: <http://www.jepu.info/schickard/english.html>
- [378]. Schmidt, J.,Marques, M.R.G.,Botti,S.,&Marques,M.A.L.(20ig).Recentadvances and applications of machine



- [379]. Schneier, Bruce, (2015), The future of privacy, in Schneier on security. Disponível em: <[http://www.schneier.com/blog/archives/2006/03/the\\_future\\_of\\_p.html](http://www.schneier.com/blog/archives/2006/03/the_future_of_p.html)>. Acesso em: 02 Jun. 2015. \_\_\_\_\_. On people, the death of privy, and data pollution.
- [380]. Schreiber, Anderson, (2013), Direitos da personalidade. São Paulo: Atlas.
- [381]. Schwartz, Bernard (1974). *The Law in America*. New York: American Heritage Publishing Co.
- [382]. Sehgal, R., Khanna, A., Dubey, A. M., & Khanna, P. (2022). Industry 4.0: A Paradigm Shift in Technological Approach for Business Organization and Society. *Susfoinobifity in the Gig Economy*, >>5242. <https://doi.org/10.1071/978-981-16-8406-717>
- [383]. Sepulveda, Magdalena, (2009), Theo van Banning, Gudrun D. Gudmundsdottir, Christine Chamoun and Willem J.M. van Genugten, (2009), Human Rights References Handbook. Ciudad Colon: University for Peace.
- [384]. Shah, U. 2015. O jogo de imitação incompreendido de Turing e o sucesso watson da IBM. Recuperado de: [https://www.academia.edu/474617/Turing\\_s\\_misunderstood\\_imitation\\_game\\_and\\_IBM\\_s\\_Watson\\_success](https://www.academia.edu/474617/Turing_s_misunderstood_imitation_game_and_IBM_s_Watson_success)
- [385]. Shah, U. 2015. O jogo de imitação incompreendido de Turing e o sucesso watson da IBM. Recuperado de: [https://www.academia.edu/474617/Turing\\_s\\_misunderstood\\_imitation\\_game\\_and\\_IBM\\_s\\_Watson\\_success](https://www.academia.edu/474617/Turing_s_misunderstood_imitation_game_and_IBM_s_Watson_success)
- [386]. Shoham Yoav. 1990. [Programação Orientada para o Agente](#): Relatório Técnico STAN-CS-90-1335. — Departamento de Informática da [Universidade de Stanford](#)
- [387]. Shujahat, M., Hussain, S., Javed, S., Malik, M.I., Thurasamy, R., & Ali, J. (2017). Modelo de gestão estratégica com lente de gestão de conhecimento e inteligência competitiva. *Vine Journal of Information and Knowledge Management Systems*, 47(1), 55-93.
- [388]. Shuman, Ghosemajumder. 2022. [O Jogo da Imitação: A Nova Linha da Frente de Segurança](#) . Recuperado de: <https://www.infoq.com/presentations/ai-security/>
- [389]. Shuman, Ghosemajumder. 2022. [O Jogo da Imitação: A Nova Linha da Frente de Segurança](#) . Recuperado de: <https://www.infoq.com/presentations/ai-security/>
- [390]. Siegel, E. (2016). *Análise preditiva: o poder de prever quem vai clicar, comprar, mentir ou morrer*. Hoboken, NJ: Wiley.
- [391]. Silveira, Paulo A., (1997), Caliendo Velloso da. Proteção de dados no Direito Comparado. Revista AJURIS – n. 71 – Novembro/1997
- [392]. Simon, H. *The sciences of the artificial*. Cambridge: MIT Press, 1981.
- [393]. Simulation game – é um gênero de jogos que são projetados para imitar atividades que você veria no mundo real. O objetivo do jogo pode ser ensinar-te alguma coisa.
- [394]. Siviero, S.; Terlizze, D. *Laprevisão macroeconômica: alcinulughicomunidasfatere*.
- [395]. Smith, D. L. (2015). Papel evolutivo do Futurista. *Jornal de Política e Prática de Gestão*, 16(3), 133-135.
- [396]. Smith, G. W. 2015. Arte e Inteligência Artificial. O ArtEnt.
- [397]. Smith, G. W. 2015. Arte e Inteligência Artificial. O ArtEnt.
- [398]. Swiechowski, Maciej. 2020. "[Competições de AI de Jogo: Motivação para a Competição de Jogo de Imitação](#)" (PDF), Proceedings of the 15th Conference on Computer Science and Information Systems (FedCSIS 2020),
- [399]. Taborda, Maren Guimarães, (1998 p.245), O princípio da igualdade em perspectiva histórica: conteúdo, alcance e direções. Revista de direito administrativo. Rio de Janeiro.
- [400]. Teleworking and technostress: early consequences of a COVID-19 lockdown. *Cognition, Technology and Work*. <https://doi.org/10.1007/S10111-02a-006g3>.
- [401]. Teste de turing - Originalmente chamado de jogo de imitação por Alan Turing em 1950, é um teste da capacidade de uma máquina de exibir comportamento inteligente equivalente ou indistinguível de um humano
- [402]. Tiago Fachini, (2016), Servidor Público: Esclarecendo O Passo A Passo De Um Processo Judicial
- [403]. Towards an Ubiquitous Recruitment Process and Candidate Relationship Management. *German Journal of Human Resource Management: Zeitschrift für*
- [404]. Tradução de Roberta Barni. O original em italiano – "La crisi finanziaria e le previsioni degli economisti" – encontra-se à disposição do leitor no IEA-USP para eventual consulta. Revisão técnica de Leda Paulani.
- [405]. Turing, Alan. Em 1950. Máquinas de Computação e Inteligência. *Mente*, LIX (236).
- [406]. Udvary, S., "Regras de Representação à luz das decisões do Tribunal Constitucional" em Papp, Zs.(ed), *a Lei Processual Civil Húngara nos anos 90 e a Harmonização da Lei da UE (ELTE AJK 2003)* 328-45.
- [407]. Uma Breve História dos Direitos Humanos - A Carta Magna (1215). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/magna-carta.html>
- [408]. Uma Breve História dos Direitos Humanos - A Constituição dos Estados Unidos da América (1787) e a Declaração dos Direitos (1791). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/declaration-of-independence.html>
- [409]. Uma Breve História dos Direitos Humanos - As Nações Unidas (1945). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/the-united-nations.html>
- [410]. Uma Breve História dos Direitos Humanos - O Cilindro de Ciro (539 a.C.). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/>
- [411]. Uma Breve História dos Direitos Humanos - Petição de Direito (1628). (s.d.). Obtido de Unidos pelos Direitos Humanos: <http://www.unidosparaosdireitoshumanos.com.pt/what-are-human-rights/brief-history/magna-carta.html>
- [412]. UN Committee on the Rights of the Child: [www.ohchr.org/english/bodies/crc](http://www.ohchr.org/english/bodies/crc)
- [413]. UN Human Rights Committee: [www2.ohchr.org/english/bodies/hrc/index.htm](http://www2.ohchr.org/english/bodies/hrc/index.htm)
- [414]. UN Security Council Committee established pursuant to resolution 1267 (1999)
- [415]. UN Security Council Counter Terrorism Committee: [www.un.org/en/sc/ctc/rights.html](http://www.un.org/en/sc/ctc/rights.html)
- [416]. União Europeia. Disponível em: [www.privacyconference2009.org/dpas\\_space/Resolucion/index-iden-idphp.php](http://www.privacyconference2009.org/dpas_space/Resolucion/index-iden-idphp.php)
- [417]. United Nations Human Rights Committee, (1988). General Comment No. 16: The right to respect privacy, family, home and correspondence, and protection of honors and reputation (Art. 17). Available at: [www.unhcr.ch/tbs/doc.nsf/0/23378a8724595410c12563ed004aeecd?OpenDocument](http://www.unhcr.ch/tbs/doc.nsf/0/23378a8724595410c12563ed004aeecd?OpenDocument)
- [418]. United Nations Office of the High Commissioner for Human Rights (OHCHR), (2007), Human Rights, Terrorism and Counterterrorism. Available at:
- [419]. United Nations, (2009), Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, Martin Scheinin, No. A/HRC/13/37/2009
- [420]. United Nations, tradução minha. (n.d.). Retrieved from UN Charter: <http://www.un.org/en/sections/un-charter/un-charter-full-text/index.html>
- [421]. United Nations, tradução minha. (n.d.). Retrieved from UN Charter: <http://www.un.org/en/sections/un-charter/un-charter-full-text/index.html>



- [422]. US Courts Statistics 2011: [www.uscourts.gov/uscourts/Statistics/WiretapReports/2011/Table6.pdf](http://www.uscourts.gov/uscourts/Statistics/WiretapReports/2011/Table6.pdf)
- [423]. US Courts Statistics 2011: [www.uscourts.gov/uscourts/Statistics/WiretapReports/2011/Table6.pdf](http://www.uscourts.gov/uscourts/Statistics/WiretapReports/2011/Table6.pdf)
- [424]. Valikangas, L., Gibbert, M., Nair, L.B., Paukku, M., & Peixoto, I. (2016). *Inovação estratégica: o guia definitivo para estratégias mais distantes*. Old Tappan, NJ: Pearson Education, Inc.
- [425]. Valikangas, L., Gibbert, M., Nair, L.B., Paukku, M., & Peixoto, I. (2016). *Inovação estratégica: o guia definitivo para estratégias mais distantes*. Old Tappan, NJ: Pearson Education, Inc.
- [426]. van Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. *AfandEthics*, (3), 213—218. <https://doi.org/10.1017/S43681-021-0043-6>
- [427]. van Esch, P., & Mente, M. (2018). Marketing video-enabled social media as part of your recruitment strategy: Stop trying to be trendy. *Journal of Retailing and Consumer Services*, 99(1), 266—273. [https://www.sciencedirect.com/science/article/pii/S0969696518302868?casa\\_token=d8YtAEGCDIMAAAAA:mO-](https://www.sciencedirect.com/science/article/pii/S0969696518302868?casa_token=d8YtAEGCDIMAAAAA:mO-)
- [428]. Van Lieshout, Tessa, (2006), *The United Nations and the fight against terrorism*. Nijmegen: Wolf Legal Publishers.
- [429]. Varga, I. (2014), 'Egyes es sokfeleség a perrendi kodifikációban - egy új polgári perrendtartás szabályozási elkerdesei' (Unidade e Diversidade na Codificação Processual - As Questões Preliminares Regulamentares de um Novo Procedimento Civil) em Nemeth, J. e Varga, I. *polgári perrendtartás alapjai* (HVG-ORAC 2014).
- [430]. Veblen, Thorstein, (2004), *Teoría de la clase ociosa*. Madrid: Alianza.
- [431]. Ver o site: <http://highreliability.org/index.html> (estudos efetuados na Universidade de Berkeley, Califórnia).
- [432]. Vianna, Túlio, (2007), *Transparência Pública, Opacidade Privada*. Rio de Janeiro: Editora Revan.
- [433]. Visco, I. *Analisi quantitativa e "guida all'azione" di politica economica*. Studi e Informazioni, Banca Toscana, 3, 1987.
- [434]. Wakefield, Jane. 2020. [Robot Bores: Primeiro encontro embaraçoso](#). BBC News.
- [435]. Wakefield, Jane. 2020. [Robot Bores: Primeiro encontro embaraçoso](#). BBC News.
- [436]. Walsh, Toby. 2017. O Teste de Meta-Turing. Recuperado de: <https://openreview.net/forum?id=SyEsYTeOZS>
- [437]. Walsh, Toby. 2017. O Teste de Meta-Turing. Recuperado de: <https://openreview.net/forum?id=SyEsYTeOZS>
- [438]. Walter, H.R., 'Die Ideen Franz Kleins und ihre Bedeutung für die Entwicklung des Zivilprozessrechts in Europa' (2008) 25 *Ritsumeikan Law Review* 101-10
- [439]. Wang, T., & Chen, G. (2018). Analyzing employee turnover based on job skills. In *Proceedings of the International Conference on Data Processing and Applications*, 16—
- [440]. Warren, S. D. Brandeis, L. D., (1890, p.193–220), "The right to privacy". *Harvard Law Review*, No.4, Vol. 5,. Disponível em:
- [441]. Warwick, Kewin. Shah, Huma. 2014. Identificação humana em Testes de Turing. *Revista de Inteligência Artificial Experimental e Teórica*. 27 (2)
- [442]. Warwick, Kewin. Shah, Huma. 2014. Identificação humana em Testes de Turing. *Revista de Inteligência Artificial Experimental e Teórica*. 27 (2)
- [443]. Webb, A. (2016). *Os sinais estão a falar*. New York, NY: Perseu Books, LLC.
- [444]. Wermter S., Sun R. 2000. *Sistemas Neurais Híbridos*. — Heidelberg, Alemanha: Springer-Verlag.
- [445]. Wiener, N., (1970), *O homem e a máquina*. In: *O conceito de informação na ciência contemporânea*. Rio de Janeiro: Paz e Terra.
- [446]. Witten, I.H. Frank, E. 2006. *Data Mining: Ferramentas e Técnicas práticas de aprendizagem automática* (Segunda Edição). — Morgan Kaufmann
- [447]. Zarifian, Philippe, (2003, p.192), *The model of competence: historical trajectory, current and proposed challenges*. Eric Trad R. R. Heneault. São Paulo: Senac
- [448]. Zeman, J., (1970), *Significado filosófico da noção de informação*. In: *O conceito de informação na ciência contemporânea*. Rio de Janeiro: Paz e Terra.
- [449]. Zikmund, William G., (2000), "Business" *Research Methods sixth Edition*, Dryden Press Harcourt College Publishers.