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ARTIFICIAL INTELLIGENCE: AN OVERVIEW OF PUBLICATIONS ON THE SCIELO PLATFORM

INTELIGÊNCIA ARTIFICIAL: PANORAMA GERAL DAS PUBLICAÇÕES NA PLATAFORMA SCIELO

INTELIGENCIA ARTIFICIAL: PANORAMA GENERAL DE LAS PUBLICACIONES EN LA PLATAFORMA SCIELO

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ABSTRACT

This study allowed us to have a broad view of the publications on Artificial Intelligence on the Scielo platform, in which it pointed out a historical, methodological analysis and thematic fields. He improved his knowledge on the subject by synthesizing and structuring the information in the articles, to determine the general scenario of the works. The impact consists of novelty, considering that no other study was found in the literature that presented the same scope and perspective. It deals with a topic in vogue, relevant and that deserves to be investigated to know general trends and scope. To this end, the research strategy adopted was bibliographic research based on the methods of bibliometric study and systematic review of the literature. Scielo publications on AI were scarce until 2019. Starting in 2020, research on AI has increased. Articles on AI in health and bioethics were the most published in Scielo in the period analyzed, followed by publications, respectively in the following order, in the field of education; related to law, legislation and ethics; critical analysis of AI; Business Management and Markets; communication; agrarian and computer science.

Keywords: Bibliometric Study. Systematic Review of the Literature. Artificial intelligence.

RESUMO

Este estudo permitiu ter uma visão ampla das publicações sobre a Inteligência Artificial na plataforma Scielo em que apontou uma análise histórica, metodológica e os campos temáticos. Aprimorou o conhecimento sobre o assunto ao sintetizar e estruturar as informações dos artigos, de forma a determinar o cenário geral das obras. O impacto consiste no ineditismo, tendo em vista que não foi encontrado na literatura outro estudo que apresentasse a mesma abrangência e perspectiva. Trata de um tema em voga, relevante e

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que merece ser investigado com vistas a se conhecer tendências gerais e abrangência. Para tanto, a estratégia de pesquisa adotada foi a pesquisa bibliográfica a partir dos métodos do estudo bibliométrico e revisão sistemática da literatura. As publicações no Scielo sobre IA foram escassos até 2019. A partir de 2020, as pesquisas sobre IA se intensificaram. Os artigos sobre a IA na saúde e bioética foram os mais publicados no Scielo no período analisado, seguido por publicações, respectivamente na seguinte ordem, no campo da educação; relacionadas ao direito, legislação e ética; análise crítica à IA; Gestão Empresarial e Mercados; comunicação; agrárias e; ciência da computação.

Palavras-chave: Estudo Bibliométrico. Revisão Sistemática de Literatura. Inteligência Artificial.

RESUMEN

Este estudio permitió obtener una visión amplia de las publicaciones sobre Inteligencia Artificial en la plataforma Scielo, presentando un análisis histórico, metodológico y de los campos temáticos. Mejoró el conocimiento sobre el tema al sintetizar y estructurar la información de los artículos, con el fin de determinar el panorama general de las obras. Su impacto radica en su carácter inédito, dado que no se encontró en la literatura otro estudio con la misma amplitud y perspectiva. Aborda un tema en auge, relevante y que merece ser investigado para conocer las tendencias generales y su alcance. Para ello, la estrategia de investigación adoptada fue un estudio bibliográfico basado en métodos bibliométricos y en la revisión sistemática de la literatura. Las publicaciones sobre IA en Scielo fueron escasas hasta 2019. A partir de 2020, las investigaciones sobre IA se intensificaron. Los artículos sobre IA en la salud y bioética fueron los más publicados en Scielo en el período analizado, seguidos respectivamente por publicaciones en el área de educación; derecho, legislación y ética; análisis crítico de la IA; gestión empresarial y mercados; comunicación; ciencias agrarias; y ciencias de la computación.

Palabras clave: Estudio Bibliométrico. Revisión Sistemática de la Literatura. Inteligencia Artificial.

1 INTRODUCTION

The central theme of this work is Artificial Intelligence (AI), which has been gaining more notoriety. Commissioned by *Microsoft*, a study conducted by *PricewaterhouseCoopers* stated that AI will be able to contribute more than US$15.7 trillion to the global economy by 2030 (MICROSOFT, 2019). According to Naudé (2021), the growing interest in AI has brought expectations and uncertainties. Regarding expectations, it is expected that AI will improve productivity, growth prospects, and even leverage progress towards a technological utopia, which would be achieved when it advances to the point of becoming a superintelligence. With regard to uncertainties, there is a fear that AI will negatively affect the labor market, creating employment inequality, or even that it will become an existential threat to everyone. Santos, Schaal, and Goulart (2024) state that understanding the effects of AI has been the focus of studies and public policies in various parts of the world. These studies include the possible impacts of AI on economic growth, employment, income distribution, productivity, industrial organization, innovation, inequality, and economic policy.

Several fields of knowledge carry out research involving the use of AI, such as the fields of education, health, law and ethics, business management, communication, agricultural sciences, in addition to research that discusses, in general, the capacity of AI, its benefits and the risks of its use. Kaufman (2018) claims that AI is also a subject of research in areas such as computing, linguistics, philosophy, mathematics, neuroscience, among many others.

Based on the above, this study consisted of conducting a systematic analysis of AI based on peer-reviewed scientific articles, specifically, those published by the *Scielo - Scientific Electronic Library On-line* database. The Scielo platform is a program to support the communication infrastructure of open access research, created in 1997 and launched in March 1998, adopted in 16 countries that form the Scielo Network of national collections of quality journals. Its raison d'être and the relevance of the Scielo Program lie in the recognition, promotion and improvement of journals edited by universities, scientific societies and professional associations. It has nationally edited journals that communicate basic and applied research, of national and foreign authorship, multilingual, of various disciplines, from different countries and regions within them, with the inclusion of themes of priority or regional and local interest. The 28th Scielo Program contributes to providing science in the countries where it operates with the infrastructure and capacity to progressively carry out the complete cycle of research in the modus operandi of Open Science (SCIELO, 2024).

The following guiding question arises: how has AI been treated in the literature? Which field of study conducts the most research involving AI? Thus, this research is justified as it allows us to understand how AI has been approached in scientific works, from the first article published in *Scielo* to the present day. It also allows to improve knowledge in the elaboration of a systematic literature review, synthesizing, structuring and analyzing the data provided by the articles, in order to determine the general scenario of the works under analysis. It is also noteworthy that this is a topic in vogue at the present time, which makes this work relevant to the academic environment, since no broad study was found in the literature that indicated the paths addressed about publications related to AI, giving originality to the present work.

2 THEORETICAL FRAMEWORK

Two scholars in this field, Stuart Russell and Peter Norvig, define AI as the study of intelligent agents that receive perceptions from the environment and perform actions, in which each agent implements a function that maps sequences of perceptions into actions. For them, AI ranges from general-purpose applications (such as learning and perception) to specific tasks (such as playing chess, demonstrating mathematical theorems, creating poetry, and diagnosing diseases), systematizing and automating intellectual tasks that are relevant to various spheres of human activity, being a field that tries not only to understand, but also to construct intelligent entities (RUSSELL; NORVIG, 2004).

Another definition is that AI is the ability to create machines capable of replicating human intelligence, allowing them to do what was typically done by humans (KAUFMAN, 2018; PEIXOTO, 2020; SAINTS; SCHAAL; GOULART, 2024; TEIXEIRA, 1990). Santos, Schaal, and Goulart (2024) add that machines, or intelligent systems, are capable of performing tasks autonomously, based on stored information and their own experiences, by cross-referencing and interconnecting thousands of data. For them, AI has the potential for widespread application in society and production, which amplifies and deepens the changes brought about by it. Taulli (2020) states that AI is not only associated with computer science and mathematics, there have also been important contributions from other fields, such as economics, neuroscience, psychology, linguistics, electrical engineering, and philosophy.

According to Taulli (2020), philosopher John Searle, writer of the article "*Minds, Brains and Programs*", which, in Portuguese, means "Minds, Brains, and Programs", believed that there were two forms of AI: strong AI and weak AI. For him, strong AI refers to when a machine actually understands what is going on, and can even demonstrate emotions and

creativity; as an example, he mentions that it can be found in companies such as *Google*'s *Deep Mind*. Coppin (2012) believed that, having a computer with adequate processing capacity and giving it sufficient intelligence, it would be possible to create a computer capable of thinking and being conscious, just as a human is conscious. But he recognizes that, for the time, this idea was considered absurd and even unfounded.

Searle believed that weak AI refers to a machine's ability to match patterns by typically focusing on specific tasks, such as *Apple*'s *Siri* and *Amazon*'s *Alexa* (TAULLI, 2020). For Coppin (2012), unlike strong AI, weak AI is about replicating intelligence through commands given to a computer to solve complex problems. Thus, the fact that a computer acts intelligently does not mean that it is really intelligent, like a human.

3 METHODOLOGY

Regarding the approach, the present study is characterized as a bibliographic research, in which the bibliometric study and systematic review of the literature were adopted to characterize works present in the *Scielo database*, on the theme "Artificial Intelligence". The bibliometric study involved the analysis of the temporal evolution of the works, classification of the journals, methodologies and objects investigated in these articles. And the systematic literature review approach was applied as a method, with the objective of creating categories of analysis of the contents present in the analyzed works. The present work is also characterized as descriptive research and exploratory study.

In this sense, this study describes, based on a previously elaborated research protocol, the characteristics present in scientific articles on AI published in journals and made available on the *Scielo Platform*. This description aimed to discuss the general characteristics of the publications and the contents involved in what was published in relation to this theme, and the exploratory perspective was due to the fact that the theme is in vogue and still in scientific and epistemological construction.

The present study was structured on the collection of secondary data, more specifically on articles published in journals that have been submitted to peer review. The platform chosen for the research was *Scielo* (Online Digital Scientific Library). Data collection was carried out from May 15 to July 16, 2024 and to ensure a more complete result, it was decided to use search terms (descriptors/keywords) in both Portuguese and English, namely: Artificial Intelligence and *Artificial Intelligence*. In the research protocol created, citable articles, characterized as being in Portuguese, that contained the terms "Artificial Intelligence" or

"*Artificial Intelligence*" in the "Title" and "Abstract" fields, published on the platform until July 16, 2024, were selected, resulting in a total of 127 works. The next step was to *download* these articles to start the analysis.

Articles that did not contain the term "artificial intelligence" in the title and abstract (review of the protocol applied) were excluded; articles in which the topic was not related to AI; any works that were not articles from journals/magazines (including TCC, dissertation, thesis, specialization monograph, event articles and books); repeated articles and articles with incomplete text/incomplete availability. All 127 works selected after the inclusion parameters had the term "artificial intelligence" in the title and abstract, contained a theme related to AI, and were articles from journals/magazines. However, there were 60 repeated works and one work with incomplete availability, which resulted in 66 articles selected to compose the systematic literature review carried out, which were ordered in Table 1.

Table 1

Selected articles

No.	Title	Quote
1	Artificial intelligence in the improvement of ecology essays: a study in a Brazilian high school	Silva Neto e Leite (2024)
2	Health literacy in ChatGPT: exploring the potential of using artificial intelligence for the preparation of academic texts	Peres (2024)
3	Artificial intelligence for predicting bed bath time in Intensive Care Units	Toledo, Bhering and Ercole (2024)
4	Lexical density in texts generated by ChatGPT: implications of artificial intelligence for writing in additional languages	Silva and Rottava (2024)
5	Diagnosis of diabetic retinopathy by artificial intelligence through *smartphone*	Oliveira *et al*. (2024)
6	Application of artificial intelligence techniques to classify evasion of the theme in essays	Pinho, Gaspar and Sassi (2024)
7	Artificial intelligence applied to evaluate the perception of the quality of *E-commerce logistics*: the case of Rio de Janeiro	Sucena and Cury (2024)
8	Generative artificial intelligence (AI) and information competence: informational skills necessary for the use of generative AI tools in informational demands of an academic-scientific nature	Trindade and Oliveira (2024)
9	Behind Artificial Intelligence: An Analysis of the Epistemological Underpinnings of Machine Learning	Aaron (2024)
10	Artificial intelligence in tourism studies and research in Brazil	Santos *et al*. (2024)
11	New challenges for education in the age of artificial intelligence	Azambuja e Silva (2024)
12	Bioethics and artificial intelligence: a current panorama of literature	Ships (2024)
13	Artificial intelligence-assisted judicial decision and the Victor System of the Federal Supreme Court	Valle, Gasó and Ajus (2023)
14	Artificial Intelligence and ethics: a dialogue with Lima Vaz	Broached (2023)
15	Dimensions of the use of technology and artificial intelligence (AI) in recruitment and selection (R&S): benefits, trends and resistances	Blumen and Cepellos (2023)
16	The use of artificial intelligence in judicial decision-making	Toledo and Pessoa (2023)
17	Artificial intelligence in the analysis of the emotions of nursing students submitted to clinical simulation	Leon *et al*. (2023)

18	Use of artificial intelligence to predict the risk of flexible post-ureteroscopy sepsis: a systematic review	Alves *et al*. (2023)
19	Multimodal Information Architecture: contributions to the development of artificial intelligence	Kuroki Junior and Gottschalg-Duque (2023)
20	Innovations in Surgical Training: Exploring the Role of Artificial Intelligence and Large Language Models (LLM)	Varas *et al*. (2023)
21	Artificial intelligence in education: the challenges of ChatGPT	Rodrigues and Rodrigues (2023)
22	The Ultimate Robot: Artificial Intelligence, Empowerment, and Control	Kirtschig and Olsen (2023)
23	Artificial intelligence in health and bioethical implications: a systematic review	Elias *et al*. (2023)
24	Story More Than Human: Describing the Future as Repeating Upgrade of Artificial Intelligence	Bonaldo (2023)
25	Artificial intelligence in the constitutional bodies of control of accounts of the Brazilian public administration	Ball and Martins (2023)
26	Artificial intelligence and chemistry teaching: a propaedeutic analysis of ChatGPT in the definition of chemical concepts	Milk (2023)
27	Artificial intelligence and prediction of death from Covid-19 in Brazil: a comparative analysis between *the Logistic Regression*, *Decision Tree,* and *Random Forest algorithms*	Silva and Silva Neto (2022)
28	Criminal procedure and artificial intelligence: towards a maximum security (procedural) criminal law?	Santos (2022)
29	Artificial intelligence and legal personality: perspectives in Brazilian corporate law	Chaves and Colombi (2022)
30	Bioethical challenges of using artificial intelligence in hospitals	Nunes Guimarães and Dadalto (2022)
31	Correlation of glucose dosage by glucometer, laboratory dosage, and artificial intelligence equipment	Olive tree Barcelos and Siqueira (2022)
32	Barriers and benefits in the adoption of artificial intelligence and IoT in operation management	Rock and Kissimoto (2022)
33	Artificial Intelligence and Real Existential Risks: An Analysis of Human Limitations of Control	Candiotto and Karasinski (2022)
34	The political economy of artificial intelligence: the case of Germany	Mendes (2022)
35	Ethical limits for the use of artificial intelligence in the Brazilian Justice System, according to Law 13.709 of 2018 (LGPD) and Resolutions 331 and 332 of the National Council of Justice	Gomes, Vaz and Dias (2021)
36	The challenge of artificial intelligence technologies in education: teachers' perception and evaluation	Grapevine Lehmann and Oliveira (2021)
37	Validation of an artificial intelligence algorithm for the diagnostic prediction of coronary heart disease: comparison with a traditional statistical model	Correia *et al*. (2021)
38	The (Brazilian) Shop Floor of Artificial Intelligence: Data Production and the Role of Communication Between *Appen* and *Lionbridge Workers*	Grohmann and Araújo (2021)
39	Diagnostic performance of FFR by coronary CT angiography by *software* based on artificial intelligence	Morais *et al*. (2021)
40	National vaccination plan against COVID-19: use of spatial artificial intelligence to overcome challenges	Rocha *et al*. (2021)
41	On the artificial intelligence channel - New season of disheveled and perky	Cozman (2021)
42	Artificial Intelligence and Machine Learning: Current State and Trends	Ludermir (2021)
43	Artificial intelligence and the challenges of Digital Forensics in the 21st century	Padilha *et al*. (2021)
44	Influences of artificial intelligence technologies on teaching	Vicari (2021)
45	Prescription of physical exercises by artificial intelligence: will physical education end?	Oliveira e Fraga (2021)
46	Artificial Intelligence and Damaged Training: Deep Learning and Shallow Ethics Between Teachers and Students	Zuin (2021)
47	Artificial intelligence that predicts mortality in an intensive care unit and comparison with a logistic regression system	Nistal-Nuño (2021)
48	Artificial intelligence as a subject of law: construction and critical theorization about personhood and subjectivation	Divine (2021)

49	Impact of artificial intelligence on the choice of radiology as a medical specialty by medical students in the city of São Paulo	Brandes *et al*. (2020)
50	Artificial intelligence in public relations? No thanks. Perceptions of European communication and public relations professionals	Sebastian (2020)
51	Semi-training and artificial intelligence in teaching	Campos and Lastória (2020)
52	Implementation of an artificial intelligence algorithm for sepsis detection	Gonçalves *et al*. (2020)
53	*Legal tech*: *analytics*, artificial intelligence and the new perspectives for the practice of private law	Andrade, Rosa and Pinto (2020)
54	The Playful Fallacy of the Three Laws: An Essay on Artificial Intelligence, Society, and the Difficult Problem of Consciousness	Lent (2020)
55	The Digital Technological System: artificial intelligence, cloud computing and *Big Data*	Silva Neto, Bonacelli and Pacheco (2020)
56	The metaphysical dimension of artificial intelligence	Braga and Chaves (2019)
57	The use of artificial intelligence in the application of public law: the special case of the collection of tax credits - a study aimed at the Brazilian and Portuguese cases	Abraham and Catarino (2019)
58	Artificial intelligence and medicine	Wolf (2017)
59	Communication and artificial intelligence: new challenges and opportunities for communication research	Gunkel, Trento and Gonçalves (2017)
60	Estimation of the tapering of the Araucaria Stem using artificial intelligence techniques	Martins *et al*. (2017)
61	Artificial intelligence applied to animal science	Costa (2009)
62	Artificial intelligence: an application in a continuous process industry	Sellitto (2002)
63	Diagnosis of cerebellopontine angle tumors with the aid of artificial intelligence techniques	Leitão *et al*. (2000)
64	Biological intelligence *versus* artificial intelligence: a critical approach	Sanvito (1995)
65	An approach to artificial intelligence and simulation, with an application in national beef cattle	Costa (1992)
66	Artificial intelligence and problem-solving theory	Teixeira and Gonzales (1983)

Source: The authors, 2025.

After selecting the articles, a content analysis of all selected articles was carried out, followed by a thematic categorization based on the main focus of each work. To agglutinate the works into the categories created, the keywords and the content of the abstract of each article were specifically analyzed. In all, eight categories of analysis were created: Health and Bioethics; Education; Law, Legislation and Ethics; Critical Analysis of AI; Business Management and Markets; Communication; Agricultural; Computer Science.

4 RESULTS AND DISCUSSION

Over the years, there has been a significant increase in publications about AI. The first article on AI, present on the *Scielo Platform*, dates from 1983. There was a 9-year gap until the publication of the second article, in 1992. Until 2009, there were six articles about AI on the platform, representing 9.09% of the articles analyzed. From 2010 to 2016, no article on this topic was published in *Scielo*. The year 2017 brought the contribution of three articles, which represent 4.55% of the articles analyzed, followed by two articles in 2019 (3.03%).

In 2020, seven articles were published. From this moment on, publications about AI took off. In 2021, 14 articles were published, followed by eight publications in 2022 and 14 in 2023. In 2024, until July 16 (the final date of collection of this research), 12 articles were published. In other words, the interval of the last four years represented 83.33% of the publications present in this study, which proves the growing interest in this area of research in recent years.

4.1 QUALIS CAPES CLASSIFICATION OF JOURNALS

In total, the 66 articles were published in 49 journals. Of these, the one that was most repeated was the Advanced Studies, with a Qualis Capes A1 classification, with four publications. Then, with three publications in each journal, the Journal of Constitutional Investigations (A1), the Brazilian Journal of Nursing (A4) and the Journal of Bioethics (B1) were presented.

Two articles were published in eight different journals, namely: Ciência & Saúde Coletiva (A1), Texto Livre (A1), Trans/Form/Ação (A1), Filosofia Unisinos (A1), CONSINTER International Journal of Law (A3), Journal of the Brazilian College of Surgeons (B1), Brazilian Archives of Cardiology (B1) and Archives of Neuro-Psychiatry (B2). Finally, 35 journals presented only one article published in each one and their Qualis Capes classifications ranged from A1 to B3.

It should be noted that the predominant Qualis Capes classification is A1, representing 40.91% of the publications. The B1 classification appears in second place, representing 18.18%. Then there is the A4 classification, with 13.64%; A2, with 12.12%; A3, with 7.58%; and B2, with 6.06%. Finally, there is the B3 classification, representing 1.51% of the publications. The quality of the articles analyzed in this study is highlighted, since 74.25% of them are classified as quality indicator A, and most of them are A1, which is the best possible classification.

4.2 METHODOLOGIES AND OBJECTS/FIELDS OF STUDY INVESTIGATED

This analysis sought to determine which methods were most used for the construction of the articles, also outlining the objects (when concrete) or fields (when abstract) investigated. In all, 25 research classifications were observed, and in some cases, a single article presented more than one type of research. Theoretical articles were the research classification of 33.33% of the articles, which was the most used. Qualitative research

appeared in second place, representing 18.18% of the articles, followed by exploratory research, which was used in 16.67% of the articles, this being the third most used classification.

As for the objects/fields of study, they were classified as being primary-based, secondary-based, or with a theoretical/conceptual approach. The primary base objects/fields of study were those that worked with data collected directly by the authors themselves and represented 27.27% of the articles. The secondary base objects/fields of study were those that worked with existing data, such as databases or published literature, totaling 34.85% of the articles. The objects/fields of study with a theoretical/conceptual approach were those that analyzed or discussed concepts and theories, without necessarily relying on collected data, and represented 22.73% of the articles. There were also articles that did not present a defined object/field of study, totaling 15.15% of the studies analyzed.

The most recurrent object/field of study was linked to the area of education, being ChatGPT, which was the specific object of four articles. The articles that specified places to carry out their research were mostly carried out in Brazil. However, there were three articles that presented objects/fields of study with international bases: experts from Germany, specifically from the Rhine-Main metropolitan region (Frankfurt and Darmstadt), and from the cities of Stuttgart and Bonn; perceptions of European communication and public relations professionals, in particular, those working in Portugal; article that analyzed the use of AI in Law in Brazil and also in Portugal.

4.3 CATEGORIES OF THEMATIC ANALYSIS OF ARTICLES

When analyzing each article, it was possible to observe that some contained a similar research focus, which allowed them to be grouped into categories of analysis. In all, the 66 articles were allocated by the authors into eight categories, which included articles that related FI to the fields of study described in Table 2.

Table 2

Categories of thematic analysis of the articles

Analysis Category	Articles (absolute value)	Articles (relative value - %)
Health and Bioethics	19	28,8
Education	13	19,7
Law, Legislation and Ethics	12	18,2
AI Critical Analysis	8	12,1
Business Management and Markets	6	9,1
Communication	3	4,5
Agricultural	3	4,5

Computer Science	2	3,0
Total	66	100

Source: The authors, 2025.

The articles analyzed in this study date from 1983 to 2024 and, over the course of these 41 years, subjects from different categories stood out. Table 3 shows how the studies in each category have advanced over the years.

Table 3

Time advance of the categories

CATEGORY	YEAR													TOTAL
	1983	1992	1995	2000	2002	2009	2017	2019	2020	2021	2022	2023	2024	
Health and Bioethics				1			1		2	5	3	4	3	19
Education									1	3		2	7	13
Law, Legislation and Ethics								1	1	2	2	6		12
AI Critical Analysis	1		1					1	1	2	1		1	8
Management Business and Markets					1					1	2	1	1	6
Communication							1		1	1				3
Agricultural		1				1	1							3
Computer Science									1			1		2
TOTAL	1	1	1	1	1	1	3	2	7	14	8	14	12	66

Source: The authors, 2025.

The first published article is a critical analysis of AI, a theme that has remained stable, presenting one article in the years 1983, 1995, 2019, 2020, 2022 and 2024, and two articles in 2021. The category of agrarian women appeared next, with three scattered publications, the first in 1992, the second in 2009 and the third in 2017. Articles on health and bioethics began to be published only in 2000, with a long interval until the second publication on the subject, in 2017. From 2020 onwards, this topic began to gain prominence, with two articles published this year, five in 2021, three in 2022, four in 2023, and three in 2024, which made this the category with the most publications in this study. In 2002, there was an article on business management and markets, a subject that was only addressed again in 2021 with one publication, followed by two in 2022, one in 2023 and one in 2024. The communication category was centralised over a four-year period, with one publication in 2017, one in 2020 and one in 2021.

The categories of education and law, legislation and ethics have been the focus of research only in recent years, but even so, they represented, respectively, the second and third largest categories in this study. The first article on law, legislation and ethics was published in 2019, followed by one more in 2020, two in 2021, two in 2022 and six in 2023.

Publications on education began in 2020 with one article, followed by three in 2021, none in 2022, two in 2023, and seven in 2024. Finally, there is the computer science category with one article in 2020 and another in 2023. Table 4 presents the articles that made up each category.

Table 4

Articles by category

Analysis Category	Articles
Health and Bioethics	Naves (2024); Elias *et al*. (2023); Nunes, Guimarães and Dadalto (2022); Toledo, Bhering and Ercole (2024); Oliveira *et al*. (2024); Leon *et al*. (2023); Alves *et al*. (2023); Varas *et al*. (2023); Silva and Silva Neto (2022); Oliveira, Barcelos and Siqueira (2022); Correia *et al*. (2021); Morais *et al*. (2021); Rocha *et al*. (2021); Nistal-Nuño (2021); Oliveira and Fraga (2021); Brandes *et al*. (2020); Gates *et al*. (2020); Lobo (2017); Leitão *et al*. (2000).
Education	Silva Neto and Leite (2024); Peres (2024); Silva and Rottava (2024); Pinho, Gaspar and Sassi (2024); Trindade and Oliveira (2024); Santos *et al.* (2024); Azambuja and Silva (2024); Rodrigues and Rodrigues (2023); Milk (2023); Parreira, Lehmann and Oliveira (2021); Vicari (2021); Zuin (2021); Fields and Lastória (2020).
Law, Legislation and Ethics	Valle, Gasó and Ajus (2023); Toledo and Pessoa (2023); Bitencourt and Martins (2023); Andrade, Rosa and Pinto (2020); Abraham and Catarino (2019); Kirtschig and Olsen (2023); Chaves and Colombi (2022); Divino (2021); Broached (2023); Bonaldo (2023); Santos (2022); Gomes, Vaz and Dias (2021).
AI Critical Analysis	Arão (2024); Candiotto and Karasinski (2022); Cozman (2021); Ludermir (2021); Quaresma (2020); Braga and Chaves (2019); Sanvito (1995); Teixeira and Gonzales (1983).
Business Management and Markets	Sucena and Cury (2024); Blumen and Cepellos (2023); Rocha and Kissimoto (2022); Mendes (2022); Grohmann and Araújo (2021); Sellitto (2002).
Communication	Padilha *et al*. (2021); Sebastião (2020); Gunkel, Trento and Gonçalves (2017).
Agricultural	Martins *et al*. (2017); Costa (2009); Costa (1992).
Computer Science	Kuroki Júnior and Gottschalg-Duque (2023); Silva Neto, Bonacelli and Pacheco (2020).

Source: The authors, 2025.

In all, 19 of the 66 articles analyzed were associated with the **Health and Bioethics Category**. Of these, three referred specifically to ethics in the field of health, called bioethics. Naves (2024) concluded that AI and robotics require prior implementation of ethical operating standards that ensure safety and applicability in the field of health and that the relatively unstable state of AI and its potential liability provide an opportunity to develop a new model, which accommodates medical progress and instructs stakeholders on how best to respond to this disruptive innovation. Elias *et al*. (2023) concluded that transparency is the main basis of AI in health and that regulations need to evolve, both in the definition of responsibilities and in the understanding and trust about the autonomy of decisions generated by AI. Nunes, Guimarães, and Dadalto (2022) believe that, in the hospital phase, when AI is implemented in the care unit, it is essential to monitor the bioethics committee, making sure of the integrity of the technology, the data from the research that preceded it, and its management, in

addition to making the role of the State in regulating AI and ensuring compliance with the legislation essential.

Other articles in this category analyzed the use of AI in various medical situations. In some cases, the authors tested different AI algorithms in order to determine which one was best to achieve the goal they proposed. In other cases, the authors developed the AI algorithm themselves, and there have been papers that have discussed how AI is affecting medicine and its fields.

In **the Education Category**, all articles that have education as the focus of study were allocated, totaling 13 works. The most explored subject in this category was the ChatGPT Generative AI model, which appears as a tool with great potential to facilitate the academic field, but which brings many uncertainties and concerns. Another theme analyzed by the articles in this category was the impact of AI on the teaching-learning process, both from positive and negative perspectives.

Silva Neto and Leite (2024) concluded that *chatbots* were able to facilitate the application of content and make assessments more engaging and productive. Peres (2024) concluded that, even for a topic that is still emerging in the reference literature in the Portuguese language (health literacy), the AI tool was able to generate coherent and structured texts. The results of Silva and Rottava (2024) revealed that ChatGPT does not follow the instructions of the tasks regarding the number of words requested, thus impacting the calculation of lexical density, nor does it produce texts that show significant differences in lexical density between additional languages and proficiency levels. Pinho, Gaspar and Sassi (2024) concluded that the solution validated by the research contributes to positively impact the work of teachers and educational institutions, by reducing the time and costs associated with the essay evaluation process.

Trindade and Oliveira (2024) stated that, in order to use generative AI tools effectively and strategically, people need to analyze the need for information, analyze the tool, plan search strategies/elaborate commands, analyze synthesized content, use synthesized content, and apply the 18 informational skills related to these steps. Santos *et al.* (2024) pointed to the need to have legal regulations regarding the ethical and responsible use of AI, highlighting the use of AI tools for spelling correction and proper formatting of texts as an advantage. Azambuja and Silva (2024) came to the conclusion that it is necessary to enhance AI systems inside and outside the classroom and suggested that teachers focus more on developing students' interpersonal and critical skills.

Rodrigues and Rodrigues (2023) pointed out that AI does not guarantee objectivity and neutrality just because it is processed by machines and supposedly protected against human error, a factor observed in the use of the ChatGPT tool, whose searches and contributions are not free from errors. Leite (2023) concluded that ChatGPT has excellent linguistic capacity, but it is limited in logic, abstraction, high-level reasoning, and is not able to maintain a coherent and high-level discussion, which can be carried out through teacher-student and student-student interaction. Parreira, Lehmann and Oliveira (2021) stated that teachers realize that flexibility and adaptability are the basis for responding to the challenges they will soon face and that transversal skills are the essence of this flexibility and adaptive capacity.

Vicari (2021) came to the conclusion that, when it comes to technology, breaking paradigms and disruption can change the trend at any time. He said that, if changes in education are necessary, the way of evaluating education also needs to change. Zuin (2021) concluded that the attitudes of teachers, who assume their conditions as human beings subject to failures and successes, will most likely lead to a type of empathy among students, which will make both groups use digital technologies to understand the causes of educational phenomena and become ethically sensitized to change their own practices inside and outside schools. Campos and Lastória (2020) reflected on audiovisual technologies, digital platforms, and AI *software* aimed at personalizing teaching and stated that it is up to the critical teacher, in the face of the technological modernization of education, to teach students exercises that make them capable of carrying out experiences that expand sensitivity and the capacity for conceptual abstraction.

The **Law, Legislation and Ethics Category** was composed of 12 works, in which AI appears as a tool capable of streamlining and facilitating work in different sectors of the field of law, but which needs a defined legislation so that it does not go against the ethical precepts of society. Valle, Gasó, and Ajus (2023) presented the historical context from the creation of AI to its insertion in the world of Law and, in more detail, the problem of *biases* and artificial hypernormatization, reporting state measures that aim to remedy this type of problem. Toledo and Pessoa (2023) concluded that there are several advantages brought by computerization and the current implementation of AI in the Brazilian Judiciary, however, due to the risks observed, the authors stated that AI should not be used for judicial decision-making. Bitencourt and Martins (2023) concluded that AI is present in several Brazilian Courts of Auditors, performing predictive functions, aiding and qualifying human decision-making.

Andrade, Rosa, and Pinto (2020) found that AI mechanisms based on *analytics* platforms tend to provide greater predictability for private law, mainly because they allow a better understanding of the patterns of behavior present in trials.

Abraham and Catarino (2019) believe that AI, using increasingly complex and sophisticated means, will help to solve the biggest bottleneck present in the Judiciary, which would be the collection of tax credits through tax enforcement action. As for ethical issues, they highlighted the need to guarantee justice in the decisions and interactions of public authorities with citizens, the freedom of choice of *learning* machines and, finally, the great concern about the need for regulation in this field. Kirtschig and Olsen (2023) concluded that it is necessary for state bodies of political representation to be transparent about the content and mode of operation of AI tools, so that they can regulate, monitor, and control their use, to verify their compatibility with the objectives set out in the Constitution and to determine any course correction. For Chaves and Colombi (2022) there is no legal impediment to the adoption of *Bayern's thesis* to Brazilian corporate law, which makes it possible for a limited liability company to be created and, subsequently, to be left without partners, creating the legal receptacle of AI. Divino (2021) concluded that the process of subjectivation and attribution of personality depends on the participation of AI to claim the rights to which it is inherent, and it is not up to the human being to choose and attribute them. Brochado (2023) starts from the work of Lima Vaz to present some ethical questions about the experiences lived today in the horizon of a highly technicized culture. Bonaldo (2023) made an interdisciplinary discussion covering the sociology of algorithms, informational ethics, and the philosophy of mind to, based on the theory of history, assess how the ubiquity of automation adds new dimensions to the study of the contemporary historical condition. Santos (2022) stated that the digital dictatorship of AI will stretch the boundaries between what is allowed and what is prohibited, between what is legal and what is illegal, between what is constitutional and what is unconstitutional, between man and machine, and thus will usher in a new era of iniquity that only divine providence can put an end to. Gomes, Vaz and Dias (2021) concluded that human supervision is necessary in judicial decisions that use AI in compliance with the right to explanation and review.

Eight articles made up the **Critical Analysis of AI Category** and presented, in a critical way, the authors' view of the potential and risks of AI. They talked about its use, styles, challenges, capacity, relationship with the human and philosophical relevance. Aaron (2024) concluded that the most AI can do is recognize patterns and repeat, not being a source of

absolute truth, but rather a human construction that involves mathematics, induction, subjectivity, and work. In the end, he stated that many people are criticized for lack of originality, precisely because they seem to copy someone else's work and style, while admiring the machine for doing so. Candiotto and Karasinski (2022) concluded that, in the hypothesis of internal causes, in which the self-modifications originate from the system itself, with a lack of understanding about the functioning of AI, the existential risk would remain the same, since the human brain would have many difficulties in perceiving the flaw and, even realizing it, in making decisions that contradict the suggestion of AI.

Cozman (2021) came to the conclusion that the community involved in the development of AI, for the most part, continues to seek to improve the productivity and quality of human life by building artifacts that can intelligently assist human beings. Ludermir (2021) concluded that machines are far from learning to master many human aspects, although the success of AI is undeniable and is impacting the world. Quaresma (2020) based his article on Isaac Asimov's "three laws of robotics" and exposed how these laws relate to AI. He came to the conclusion that the "three laws of robotics" are incapable of understanding AI and considers them fictitious. Braga and Chaves (2019) believe that humans are still capable of living without machines, but that machines depend on humans to exist and that humans have the ability to demonstrate qualities that computers do not yet possess and may never possess. Sanvito (1995) sought to understand the brain/mind complex and related it to AI. He determined that the great challenge of the cognitive sciences is to seek knowledge itself and not just to reproduce a simple logical-mathematical formalization of knowledge. Teixeira and Gonzales (1983) sought to show the relevance of AI to Philosophy, especially to the Philosophy of Mind and the Theory of Knowledge. They concluded that AI research intersects with philosophical research, insofar as building programs often means inquiring into the conditions of possibility of certain cognitive performances present in natural language, perception, among others.

The **Business Management and Markets Category** was composed of six articles. The subjects covered by these leftovers are, respectively, *e-commerce*, AI in the recruitment and selection process, AI in operations management, AI in the German market, working on global AI platforms, and AI in a continuous process industry.

Sucena and Cury (2024) sought to develop a mathematical model using an AI technique called *Fuzzy* Logic, capable of evaluating the quality of *e-commerce* logistics, interpreting qualitative expressions captured through a questionnaire submitted to the end

customer, transforming them into quantitative values that form partial indices and the IQLE (E-commerce Logistics Quality Index). Blumen and Cepellos (2023) cited the role of technology and AI in reducing bureaucracy in the Human Resources (HR) area, in order to make its focus more strategic and consultative, as it reduces time and cost in screening resumes and selecting candidates.

Rocha and Kissimoto (2022) found that the main barriers found in the literature for the adoption of new technologies are the difficulty of working with data and the feelings of vulnerability and insecurity in the use of these technologies by users. Mendes (2022) carried out an analysis of how AI was progressively stimulated by the German government, having chosen Germany because it is one of the centers of origin of Industry 4.0, which adopted government strategies aimed at the diffusion of AI. It concluded that AI has a variety of applications in the country, both in academic research and in market goods and services, and that the government was approaching universities and companies to push this technology. However, several challenges to the diffusion of AI and their impacts have been identified.

Grohmann and Araújo (2021) concluded that the work dynamics of Brazilians who work on global AI platforms is complex and shows several specificities beyond ideas such as "global workforce" or something in that direction. They highlighted the material conditions of data production and the role of communication between workers as emerging and complex solidarities, as fissures and gaps, in order to build strategies to deal with work on these platforms. Sellitto (2002) concluded that expert systems, CBR and *fuzzy* logic can be employed in multivariable process control systems in the continuous process industry, with satisfactory results.

In the **Communication Category**, only three articles focused on communication. The first analyzed the influence of AI on the challenges of Digital Forensic Science, with the organization of data for the media. The second analyzed the knowledge of communication professionals about AI. The third sought to understand how communication is present within the field of AI.

Padilha *et al.* (2021) concluded that, due to the volume of information, which makes manual analysis unfeasible in a timely manner, modern AI methods have become essential tools in the expert's arsenal. However, they state that many of these methods are complex and difficult to explain, which needs to be discussed so that their application is feasible in real cases, especially in sensitive CFD contexts, as interpretability and transparency about the decision-making flow of these models are essential characteristics for their use in practice.

Sebastião (2020) analysed the responses of communication and public relations professionals on questions from the *European Communication Monitor* 2019 (the world's largest study in strategic communication and public relations) related to AI and concluded that Portuguese respondents are among the least informed about AI in Europe. Gunkel, Trento, and Gonçalves (2017) concluded that, traditionally, communication studies understand and analyze the computer as a means of communicative interaction, ignoring that it can also be a participant in communicative interactions.

The Agrarian Category was composed of three articles. In these works, three different agrarian situations were presented, where AI was used as a means of research. The subjects discussed were: forest production, problems in the field of animal husbandry and beef cattle.

Martins *et al.* (2017) carried out a research on the stem of Araucaria angustifolia in order to identify which AI technique is most effective to contribute to traditional tapering functions. They concluded that the Artificial Neural Network 2 - RNA 2 (with the addition of the age variable) provided superior results than the other models evaluated. Costa (2009) presented the ideas of symbolic AI and connectionist AI. He stated that, in the case of zootechnics, the specialist is the zootechnician, the only one capable of making the power of AI be used to improve the production of food of animal origin and it is he who should seek interdisciplinarity, working together in areas such as electronic instrumentation and computing, in order to, increasingly, improve the way of solving complex problems in the area of animal husbandry.

Costa (1992) concluded that the combination of the traditional Simulation methodology with AI concepts produces a powerful tool to support the project, known as Knowledge-Based Simulation. He stated that this approach transforms simulation from a descriptive tool into a prescriptive tool and that the trend of having more and more expert simulation systems and other AI applications in simulation contributes to its advancement.

Of the 66 articles, only two presented computer science topics as the main focus of study. The article by Kuroki Júnior and Gottschalg-Duque (2023) presented the contributions of Multimodal Information Architecture (AIM) in the organization of information for training artificial neural networks, aiming to position Information Science as an area of knowledge active in AI problems, while the article by Silva Neto, Bonacelli, and Pacheco (2020) analyzed, from a historical and evolutionist perspective, the Digital Technologies System and argued that it has AI, cloud computing and Big Data as its core technologies.

5 FINAL CONSIDERATIONS

This study reviewed, bibliometrically and systematically, works published on the Scielo data platform that had AI as a research theme. Regarding the temporal evolution of publications, it is concluded that, as of 2020, there has been a considerable advance in studies related to AI, with the years with the most publications being 2021 and 2023, with 14 articles in each. However, this research only considered articles published up to July 16, 2024, which resulted in a total of 12 articles in 2024, leading to believe that, considering the filters applied, this would be the year with the highest number of publications made on AI in Scielo. Regarding the classification of journals, it is concluded that this research was based on articles with a high evaluation weight, since the lowest quality indicator presented was B3, and most of the articles were published in journals with quality indicators A1, which represents the maximum evaluation weight. Despite the fact that different research methodologies were observed, most authors chose to write a theoretical article, contributing with knowledge about different issues about AI and, often, strengthening their thoughts through critical analysis. As for the objects/fields of study, there was a prevalence in the choice of secondary data for the elaboration of AI research, with ChatGPT being the most recurrent.

Regarding the categories of analyses created, it is concluded that, until 2019, studies on AI were still scarce. Until then, research on how AI could help the agricultural sciences and critical analyses of what AI had become were the subjects most addressed by the articles, with only three publications each. Next, with two publications made, were research on AI in the field of health, and the other categories had one or no articles. However, from 2020 onwards, research on AI intensified. Articles on AI in health, including those related to bioethics, reached a total of 16 publications by the date of collection of this study, which made this the category with the most research carried out, followed by 13 studies in the field of education and 12 related to law, legislation and ethics. There were only two articles that dealt specifically with subjects related to computer science, which made this the category with the fewest publications.

Finally, it is concluded that, based on the results obtained with the systematic review carried out, the publications on AI on the Scielo platform demonstrate a growing interest in the literature on the subject. The academic and professional environment is dedicating itself to understanding this technology and seeking to improve it for application in various situations, due to its potential to facilitate and make agile the execution of the most complex tasks, and most of the publications on AI in Scielo, up to the period analyzed in this study,

are related to the field of health.

Therefore, the research brings contributions to researchers who want to understand AI in a more interdisciplinary and comprehensive way. For future studies, it is suggested to expand the research, analyzing articles published in other languages, and not only in Portuguese, in addition to an analysis that encompasses other data platforms, for a more assertive result in the research. For future studies, it is suggested to expand the research, analyzing articles published in other languages, and not only in Portuguese, in addition to an analysis that encompasses other data platforms, for a more assertive result in the research.

REFERENCES

Abraham, M., & Catarino, J. R. (2019). O uso da inteligência artificial na aplicação do direito público: O caso especial da cobrança dos créditos tributários – um estudo objetivado nos casos brasileiro e português. e-Pública: Revista Eletrónica de Direito Público, 6(2), 188–219. https://www.scielo.pt/scielo.php?script=sci_arttext&pid=S2183-184X2019000200010

Alves, B. M., & et al. (2023). Use of artificial intelligence for sepsis risk prediction after flexible ureteroscopy: A systematic review. Revista do Colégio Brasileiro de Cirurgiões, 50, Article e20233561. https://doi.org/10.1590/0100-6991e-20233561

Andrade, M. D. de, Rosa, B. de C., & Pinto, E. R. G. de C. (2020). Legal tech: Analytics, inteligência artificial e as novas perspectivas para a prática da advocacia privada. Revista Direito GV, 16(1), Article e1951. https://doi.org/10.1590/2317-6172201951

Arão, C. (2024). Por trás da inteligência artificial: Uma análise das bases epistemológicas do aprendizado de máquina. Trans/Form/Ação, 47(3), Article e02400163. https://doi.org/10.1590/0101-3173.2024.v47n3.p163

Azambuja, C. C. de, & Silva, G. F. da. (2024). Novos desafios para a educação na era da inteligência artificial. Filosofia Unisinos, 25(1), Article e25107. https://doi.org/10.4018/fun.25107

Bitencourt, C. M., & Martins, L. H. N. (2023). A inteligência artificial nos órgãos constitucionais de controle de contas da administração pública brasileira. Revista de Investigações Constitucionais, 10(3), Article e253. https://doi.org/10.5380/rinc.v10i3.253

Blumen, D., & Cepellos, V. M. (2023). Dimensões do uso de tecnologia e inteligência artificial (IA) em recrutamento e seleção (R&S): Benefícios, tendências e resistências. Cadernos EBAPE.BR, 21(2), Article e2022-0080. https://doi.org/10.1590/1679-395120220080

Bonaldo, R. B. (2023). História mais do que humana: Descrevendo o futuro como atualização repetidora da inteligência artificial. História (São Paulo), 42, Article e2023037. https://doi.org/10.1590/0101-907420230037

Braga, A. A., & Chaves, M. (2019). A dimensão metafísica da inteligência artificial. Revista Crítica de Ciências Sociais, 119, 99–120. https://doi.org/10.4000/rccs.11905

Brandes, G. I. G., & et al. (2020). Impact of artificial intelligence on the choice of radiology as a specialty by medical students from the city of São Paulo. Radiologia Brasileira, 53(3), 167–170. https://doi.org/10.1590/0100-3984.2019.0099

Brochado, M. (2023). Inteligência artificial e ética: Um diálogo com Lima Vaz. Kriterion: Revista de Filosofia, 64(154), 75–98. https://doi.org/10.1590/0100-512X2023v64n154p75

Campos, L. F. A. de A., & Lastória, L. A. C. N. (2020). Semiformação e inteligência artificial no ensino. Pro-Posições, 31, Article e20180105. https://doi.org/10.1590/1980-624820180105

Candiotto, K. B. B., & Karasinski, M. (2022). Inteligência artificial e os riscos existenciais reais: Uma análise das limitações humanas de controle. Filosofia Unisinos, 23(3), Article e23307. https://doi.org/10.4018/fun.23307

Chaves, N. C., & Colombi, H. (2022). Inteligência artificial e personalidade jurídica: Perspectivas no direito societário brasileiro. Revista Internacional CONSINTER de Direito, 14, 113–131.

Coppin, B. (2012). Inteligência artificial. LTC.

Correia, L., & et al. (2021). Validação de um algoritmo de inteligência artificial para a predição diagnóstica de doença coronariana: Comparação com um modelo estatístico tradicional. Arquivos Brasileiros de Cardiologia, 117(6), 1061–1070. https://doi.org/10.36660/abc.20210475

Costa, E. J. X. (2009). Inteligência artificial aplicada à zootecnia. Revista Brasileira de Zootecnia, 38(spe), 390–396. https://doi.org/10.1590/S1516-35982009001300039

Costa, M. A. B. da. (1992). Uma abordagem sobre inteligência artificial e simulação, com uma aplicação na pecuária de corte nacional. Production, 2(1), 51–59. https://doi.org/10.1590/S0103-65131992000100005

Cozman, F. G. (2021). No canal da inteligência artificial – nova temporada de desgrenhados e empertigados. Estudos Avançados, 35(101), 7–20. https://doi.org/10.1590/s0103-4014.2021.35101.0002

Divino, S. B. S. (2021). Inteligência artificial como sujeito de direito: Construção e teorização crítica sobre pessoalidade e subjetivação. Revista de Bioética y Derecho, 52, 237–252. https://doi.org/10.1344/rbd2021.52.35541

Elias, M. A., & et al. (2023). Artificial intelligence in health and bioethical implications: A systematic review. Revista Bioética, 31, 1–12. https://doi.org/10.1590/1983-80422023315304en

Gomes, E. B., Vaz, A. A., & Dias, S. M. de O. (2021). Limites éticos para o uso da inteligência artificial no sistema de justiça brasileiro, de acordo com a Lei 13.709 de 2018 (LGPD) e resoluções 331 e 332 do Conselho Nacional de Justiça. Revista Internacional CONSINTER de Direito, 13, 107–124.

Gonçalves, L. S., & et al. (2020). Implementation of an artificial intelligence algorithm for sepsis detection. Revista Brasileira de Enfermagem, 73(3), Article e20180421. https://doi.org/10.1590/0034-7167-2018-0421

Grohmann, R., & Araújo, W. F. (2021). O chão de fábrica (brasileiro) da inteligência artificial: A produção de dados e o papel da comunicação entre trabalhadores de Appen e Lionbridge. Palabra Clave, 24(3), Article e2438. https://doi.org/10.5294/pacla.2021.24.3.8

Gunkel, D. J., Trento, F. B., & Gonçalves, D. N. (2017). Comunicação e inteligência artificial: Novos desafios e oportunidades para a pesquisa em comunicação. Galáxia (São Paulo), 34, 5–19. https://doi.org/10.1590/1982-25542017336879

Kaufman, D. (2018). A inteligência artificial irá suplantar a inteligência humana? Estação das Letras e Cores.

Kirtschig, G., & Olsen, A. C. L. (2023). O robô supremo: Inteligência artificial, empoderamento e controle. Sequência (Florianópolis), 44(94), Article e79766. https://doi.org/10.5902/2179460X79766

Kuroki Júnior, G. H., & Gottschalg-Duque, C. (2023). Arquitetura da informação multimodal: Contribuições no desenvolvimento de inteligência artificial. Transinformação, 35, Article e226729. https://doi.org/10.1590/2318-0889202335e226729

Leitão, F., & et al. (2000). Diagnóstico de tumores do ângulo ponto-cerebelar com o auxílio de técnicas de inteligência artificial. Arquivos de Neuro-Psiquiatria, 58(1), 57–63. https://doi.org/10.1590/S0004-282X2000000100009

Leite, B. S. (2023). Inteligência artificial e ensino de química: Uma análise propedêutica do ChatGPT na definição de conceitos químicos. Química Nova, 46(9), 915–923. https://doi.org/10.21577/0100-4042.20230123

Leon, C. G. R. M. P. de, & et al. (2023). Artificial intelligence in the analysis of emotions of nursing students undergoing clinical simulation. Revista Brasileira de Enfermagem, 76, Article e20210909. https://doi.org/10.1590/0034-7167-2021-0909

Lobo, L. C. (2017). Inteligência artificial e medicina. Revista Brasileira de Educação Médica, 41(2), 185–193. https://doi.org/10.1590/1981-52712015v41n2rb20160095

Ludermir, T. B. (2021). Inteligência artificial e aprendizado de máquina: Estado atual e tendências. Estudos Avançados, 35(101), 85–94. https://doi.org/10.1590/s0103-4014.2021.35101.0008

Martins, A. P. M., & et al. (2017). Estimativa do afilamento do fuste de araucária utilizando técnicas de inteligência artificial. Floresta e Ambiente, 24, Article e20160234. https://doi.org/10.1590/2179-8087.023416

Mendes, V. (2022). A economia política da inteligência artificial: O caso da Alemanha. Revista de Sociologia e Política, 30, Article e003. https://doi.org/10.1590/1234-56782022e003

Microsoft. (2019, 17 julho). Inteligência artificial poderá contribuir em mais de US$ 15,7 trilhões para a economia global até 2030. Microsoft News Center Brasil. https://news.microsoft.com/pt-br/inteligencia-artificial-podera-contribuir-em-mais-de-us-157-trilhoes-para-a-economia-global-ate-2030/

Morais, T. C., & et al. (2021). Performance diagnóstica da FFR por angiotomografia de coronárias através de software baseado em inteligência artificial. Arquivos Brasileiros de Cardiologia, 116(6), 1091–1098. https://doi.org/10.36660/abc.20201389

Naudé, W. (2021). Artificial intelligence: Neither utopian nor apocalyptic impacts soon. Economics of Innovation and New Technology, 30(1), 1–23. https://doi.org/10.1080/10438599.2020.1839173

Naves, É. A. (2024). Bioética e inteligência artificial: Panorama atual da literatura. Revista Bioética, 32, Article e3552PT. https://doi.org/10.1590/1983-80422024323552pt

Nistal-Nuño, B. (2021). Artificial intelligence forecasting mortality at an intensive care unit and comparison to a logistic regression system. Einstein (São Paulo), 19, Article eAO6283. https://doi.org/10.31744/einstein_journal/2021AO6283

Nunes, H. da C., Guimarães, R. M. C., & Dadalto, L. (2022). Desafios bioéticos do uso da inteligência artificial em hospitais. Revista Bioética, 30(1), 82–93. https://doi.org/10.1590/1983-8042202230188

Oliveira, B. N. de, & Fraga, A. B. (2021). Prescrição de exercícios físicos por inteligência artificial: A educação física vai acabar? Revista Brasileira de Ciências do Esporte, 43, Article e002921. https://doi.org/10.1590/0101-32892021v43e002921

Oliveira, G. G., Barcelos, R. P., & Siqueira, L. de O. (2022). Analysis of correlation of glucose dosage by glycosimeter, laboratory dosage and artificial intelligence equipment. Jornal Brasileiro de Patologia e Medicina Laboratorial, 58, Article e4142022. https://doi.org/10.5935/1676-2444.20220041

Oliveira, L. E. S. de, & et al. (2024). Diagnóstico da retinopatia diabética por inteligência artificial por meio de smartphone. Revista Brasileira de Oftalmologia, 83, Article e0006. https://doi.org/10.37039/1984-8250/20240006

Padilha, R., & et al. (2021). A inteligência artificial e os desafios da ciência forense digital no século XXI. Estudos Avançados, 35(101), 113–138. https://doi.org/10.1590/s0103-4014.2021.35101.0010

Parreira, A., Lehmann, L., & Oliveira, M. (2021). O desafio das tecnologias de inteligência artificial na educação: Percepção e avaliação dos professores. Ensaio: Avaliação e Políticas Públicas em Educação, 29(113), 975–999. https://doi.org/10.1590/S0104-40362021002903027

Peixoto, F. H. (2020). Direito e inteligência artificial: Referenciais básicos com comentários à resolução CNJ 332/2020. DR.IA.

Peres, F. (2024). A literacia em saúde no ChatGPT: Explorando o potencial de uso de inteligência artificial para a elaboração de textos acadêmicos. Ciência & Saúde Coletiva, 29(1), 1–13. https://doi.org/10.1590/1413-81232024291.01202023

Pinho, C. M. D. A., Gaspar, M. A., & Sassi, R. J. (2024). Aplicação de técnicas de inteligência artificial para classificação de fuga ao tema em redações. Educação em Revista, 40, Article e39773. https://doi.org/10.1590/0102-469839773

Quaresma, A. (2020). A falácia lúdica das três leis: Ensaio sobre inteligência artificial, sociedade e o difícil problema da consciência. PAAKAT: Revista de Tecnología y Sociedad, 10(19), Article e478. https://doi.org/10.32870/Pk.a19n10.478

Rocha, I. F., & Kissimoto, K. O. (2022). Artificial intelligence and internet of things adoption in operations management: Barriers and benefits. RAM. Revista de Administração

Mackenzie, 23(4), Article eRAMR220119. https://doi.org/10.1590/1678-6971/eRAMR220119.en

Rocha, T. A. H., & et al. (2021). Plano nacional de vacinação contra a COVID-19: Uso de inteligência artificial espacial para superação de desafios. Ciência & Saúde Coletiva, 26(5), 1885–1898. https://doi.org/10.1590/1413-81232021265.40872020

Rodrigues, O. S., & Rodrigues, K. S. (2023). A inteligência artificial na educação: Os desafios do ChatGPT. Texto Livre, 16, Article e45997. https://doi.org/10.1590/1983-3652.2023.45997

Russell, S. J., & Norvig, P. (2004). Inteligência artificial: Referência completa para cursos de computação (2ª ed.). Elsevier.

Santos, H. L. dos. (2022). Processo penal e inteligência artificial: Rumo a um direito (processual) penal da segurança máxima? Revista Brasileira de Direito Processual Penal, 8(2), 767–821. https://doi.org/10.22197/rbdpp.v8i2.767

Santos, M. J. P. dos, Schaal, F. M. M., & Goulart, R. (2024). Propriedade intelectual e inteligência artificial. Almedina.

Santos, V. S. dos, & et al. (2024). Inteligência artificial nos estudos e pesquisas em turismo no Brasil. Revista Brasileira de Pesquisa em Turismo, 18, Article e2896. https://doi.org/10.7784/rbtur.v18i3.2896

Sanvito, W. L. (1995). Inteligência biológica versus inteligência artificial: Uma abordagem crítica. Arquivos de Neuro-Psiquiatria, 53(3a), 361–368. https://doi.org/10.1590/S0004-282X1995000300001

SciELO - Scientific Electronic Library Online. (2024). Programa SciELO, modelo SciELO de publicação e rede SciELO. https://www.scielo.org/pt/sobre-o-scielo/programa-scielo-modelo-scielo-de-publicacao-e-rede-scielo/

Sebastião, S. P. (2020). Inteligência artificial em relações públicas? Não, obrigado. Perceções dos profissionais de comunicação e relações públicas europeus. Media & Jornalismo, 20(36), 93–108. https://doi.org/10.14134/media.2020.36.06

Sellitto, M. A. (2002). Inteligência artificial: Uma aplicação em uma indústria de processo contínuo. Gestão & Produção, 9(3), 363–376. https://doi.org/10.1590/S0104-530X2002000300009

Silva Neto, S. L. da, & Leite, B. S. (2024). Inteligência artificial no aprimoramento de redações de ecologia: Um estudo em uma escola brasileira do ensino médio. Educación, 33(64), 86–108. https://doi.org/10.18800/educacion.202401.005

Silva Neto, V. J. da, Bonacelli, M. B. M., & Pacheco, C. A. (2020). O sistema tecnológico digital: Inteligência artificial, computação em nuvem e big data. Revista Brasileira de Inovação, 19, Article e0200024. https://doi.org/10.20396/rbi.v19i00.8656343

Silva, A. M. D., & Rottava, L. (2024). Densidade lexical em textos gerados pelo ChatGPT: Implicações da inteligência artificial para a escrita em línguas adicionais. Texto Livre, 17, Article e47836. https://doi.org/10.1590/1983-3652.2024.47836

Silva, R., & Silva Neto, D. R. da. (2022). Inteligência artificial e previsão de óbito por Covid-19 no Brasil: Uma análise comparativa entre os algoritmos logistic regression, decision

tree e random forest. Saúde em Debate, 46(spe8), 118–129. https://doi.org/10.1590/0103-11042022spe8118

Sucena, M. P., & Cury, M. V. Q. (2024). Artificial intelligence applied to assess perceptions of the quality of e-commerce logistics: Case study of Rio de Janeiro. BBR. Brazilian Business Review, 21(1), Article e20211177. https://doi.org/10.15728/bbr.2024.21.1.1177.en

Taulli, T. (2020). Introdução à inteligência artificial: Uma abordagem não técnica. Novatec Editora.

Teixeira, J. de F. (1990). O que é inteligência artificial. Brasiliense.

Teixeira, J. de F., & Gonzales, M. E. Q. (1983). Inteligência artificial e teoria de resolução de problemas. Trans/Form/Ação, 6, 45–52. https://doi.org/10.1590/S0101-31731983000100005

Toledo, C., & Pessoa, D. (2023). O uso de inteligência artificial na tomada de decisão judicial. Revista de Investigações Constitucionais, 10(1), Article e237. https://doi.org/10.5380/rinc.v10i1.237

Toledo, L. V., Bhering, L. L., & Ercole, F. F. (2024). Artificial intelligence to predict bed bath time in intensive care units. Revista Brasileira de Enfermagem, 77(1), Article e20230201. https://doi.org/10.1590/0034-7167-2023-0201

Trindade, A. S. C. E. da, & Oliveira, H. P. C. de. (2024). Inteligência artificial (IA) generativa e competência em informação: Habilidades informacionais necessárias ao uso de ferramentas de IA generativa em demandas informacionais de natureza acadêmica-científica. Perspectivas em Ciência da Informação, 29, Article e47485. https://doi.org/10.1590/1981-5344/47485

Valle, V. C. L. L., Gasó, J. R. F. i, & Ajus, A. M. (2023). Decisão judicial assistida por inteligência artificial e o sistema Victor do Supremo Tribunal Federal. Revista de Investigações Constitucionais, 10(2), Article e252. https://doi.org/10.5380/rinc.v10i2.252

Varas, J., & et al. (2023). Innovations in surgical training: Exploring the role of artificial intelligence and large language models (LLM). Revista do Colégio Brasileiro de Cirurgiões, 50, Article e20233605. https://doi.org/10.1590/0100-6991e-20233605

Vicari, R. M. (2021). Influências das tecnologias da inteligência artificial no ensino. Estudos Avançados, 35(101), 73–84. https://doi.org/10.1590/s0103-4014.2021.35101.0007

Zuin, A. A. S. (2021). Inteligência artificial e formação danificada: Aprendizagem profunda e ética rasa entre professores e alunos. Educar em Revista, 37, Article e80158. https://doi.org/10.1590/0104-4060.80158