10° CONGRESO DE BIBLIOTECAS UNIVERSITARIAS Y ESPECIALIZADAS

IFLA

4TH ARTIFICIAL INTELLIGENCE AND LIBRARIES SYMPOSIUM: TRANSFORMING INFORMATION ACCESS AND DISCOVERY

Copyright, licensing and artificial intelligence in framework of open science from Latin America: librarianship analysis

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Santiago de Chile, 12 de abril, 2024

Agenda

Introduction

Openness and reproducibility has promoted artificial intelligence (AI)

AI is an informative action linked to libraries: the action and the actor satisfy information needs.

AI raises multiple challenges: how to legislate authorship, ownership, recognition that uses and produces.

Debate: only expressions product of human intellect are subject to legislation.

Academic communities' express doubts and concerns about what legal norms implement of use of third-party academic products by AI.

Aim: study and identify the copyright regulations and open licenses for data and research outputs from Latin America to legislate goods used and produced by AI in the open science framework.

1. Literature Review

Access to information is in transformation linked with emerging technologies during the COVID-19:

AI and OS raise challenges: use of third-party data and research outputs.

AI has generated production of a lot of literature

Study it in LIS approach: AI and copyright regulations to openness of science.

1. Literature Review

- "Artificial Intelligence was defined as the area of study focused on developing applications that can emulate human reasoning ability to solve various problems … It is possible identify three main elements … algorithm, hardware in which runs and the data and information used in it." (Wachowicz and Reuthers, 2019, p. 51)

"AI as any task performed by a program or machine that, if a human carried out the same activity, a human would have to apply intelligence to accomplish the task". (Minsky and McCarthy, 1950 cfr. Afshar, 2022)

"AI is a science that seeks to develop systems/machines capable of performing tasks that require human intelligence. This include the ability to learn from data, recognize patterns, make autonomous decisions, and in some cases, even emulate human cognitive processes such as thinking and problems-solving. The three fundamental pillars for understanding how AI learns and makes decisions are Machine Learning, Deep Learning and Reinforcement Learning" (Casado, 2023)

"AI programs functioning as software code generators and as "automatic" programmers; and AI programs producing traditional literary works comparable to those thus, the development and implementation of sophisticated computer programs is the principal means investigators use in attempts to create artificial intelligence of a human author" (Butler, 1985, pp. 710-711)

"AI with Machine learning refers to the capabilities of a computer to adapt to new circumstances and to detect and extrapolate patterns" (Russell and Norvig, 2015 cfr. UNESCO, 2023, p. 13).

"AI must possess a sign of human intelligence" (Kurzweil, 1985. Cfr. Souza, 2021, p. 127)

"AI, "generative AI" technology, is capable of producing outputs such as text, images, video, or audio (including emulating a human voice)" (US, 2023)

"AI is the study of agents that exist in an environment and perceive and act" (Russell and Norvig, 2010 cfr. Ballardini, He and Roos, 2018)

"Artificial Intelligence (AI) is a general-purpose technology that has the potential to: improve the welfare and well-being of people, contribute to positive sustainable global economic activity, increase innovation and productivity, and help respond to key global challenges. It is deployed in many sectors ranging from production, finance and transport to healthcare and security." (OECD, 2023, p. 3)

"AI is a field of study that seeks to explain and emulate intelligence behavior in terms of computational processes" (Schalkoff, 1990 cfr. Ballardini, He and Roos, 2018)

"AI systems are viewed primarily as learning systems; that is, machines that can become better at a task typically performed by humans with limited or no human intervention" (WIPO, 2019, p. 19)

"AI systems as systems which have the capacity to process data and information in a way that resembles intelligent behavior, and typically includes aspects of reasoning, learning, perception, prediction, planning or control. AI systems are information-processing technologies. AI systems may include several methods, such as but not limited to: machine learning and machine reasoning." (UNESCO, 2022, p. 10)

1. Literature Review

- *Artificial Intelligence and Open Science*

- The open science foster maximizing openness of data and research outputs, FAIR, to benefit societies (UDHR, Art. 27, 1948)

- AI and OS begins in parallel at COVID-19 pandemic (UNESCO, 2023, p. 7): to investigate vaccine (UNESCO, 2021, pp. 25, 27)

- AI was used for processing of a vast amount of open data and analysis of patterns.

- Crystallizes meaningful of openness of science. (UNESCO, 2023, pp. 12-15)

- AI and OS : FAIR principles. For AI: "Federated AI–Ready" (UNESCO, 2023, p. 15; GoFAIR, s.f.)

- AI and OS from LIS approach: Research Data Management (RDM) and data and information are backbone. (Wachowicz & Reuthers, 2019, p. 51; UNESCO, 2022, p. 10; Corso, 2019, p. 1720; Samuelson, 2023)

- AI raises concerns; authorship, ownership, use of informative expressions of third parties, copyright regulations and open licensing to justify openness and usability.
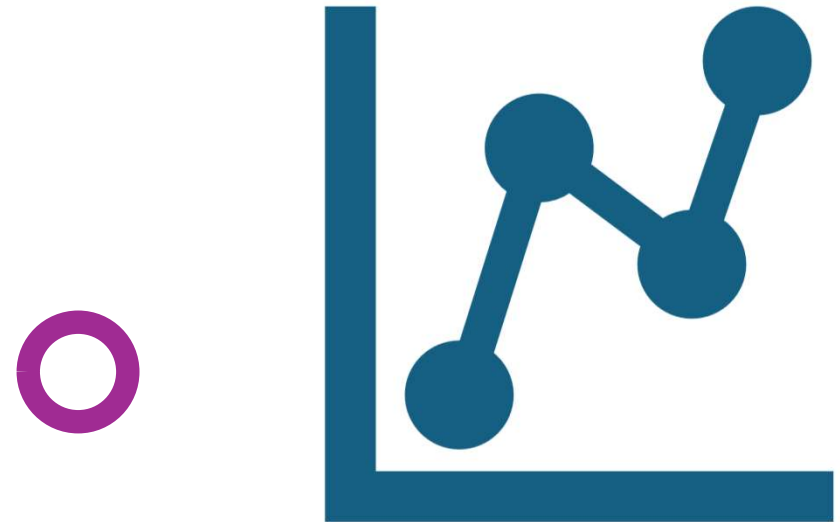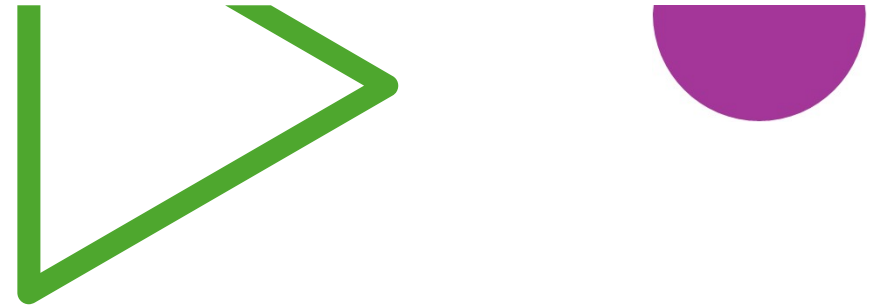
1. Literature Review

- *Artificial Intelligence and Copyright: global approaches*

- Use that AI makes of the data openness is subject of debates at global level (WIPO, 2019, p. 1)

- Set of concerns about AI, copyright and licensing open in framework of OS.

- AI foster a set of legal challenges to protect goods and services.

- International and regional organizations (UNESCO, 2023; WIPO, 2019; U.S., 2023; EU, 2024; OECD, 2023b) have presented their approach to the challenges. (Silva, 2023)

1. Literature Review

- 1. World Intellectual Property Organization (WIPO).
  - Main debate: determine whether AI is subject to being protected by copyright over authority and/or ownership.
  - Draft to learn the most relevant issues of AI and intellectual property.
    - Main topics: AI and IP administration are raised; clearinghouse on IP and AI; develop IP policies on AI.
    - Based on answers received focused in:
      - item 6 on "Copyright and Related Rights"- "Authority and Property";
      - item 9, "General Policy Issues"- "Data";
      - item 10 "Other rights in relation to data".
  - Debate focused on recognizing human creativity versus automatic creativity and availability of human and automatic creative works.
  - AI changes concept of "author" and "inventor" and "open access" to data facilitates the development of AI (Gurry (2018)
  - New approaches must be addressed.

WIPO

1. Literature Review

International Federation of Library and Associations (IFLA)

International
Federation of
Library
Associations and Institutions

Statements and tools about AI and copyright			
IFLA-Draft WIPO Issues and it is focused on:	items on 'copyright and related right'	item 6, regarding granting rights of author to works produced by AI and recommended:	changing the concept of 'attribution of copyright to works generated by AI' to 'attribution of copyright protection'
IFLA: AI is really managed with human intervention:	human writes and programs algorithms		
	selects data		
	defines what regulations and standards to implement		
	affects 'autonomy'		
IFLA suggest:	rethinking factors about the 'creativity'		
	'incentives' to granting copyrights to the programmers		
	having more evidence to determine meaningful policies		

IFLA-Intelligence Artificial Section

- Statement: (IFLA 2020)
  - outline key considerations
  - roles of libraries to AI integration
- Libraries must have regulations to develop projects on AI.
- Encourage exceptions on Text and Data Mining (TDM)
- Allow libraries to perform accessing information

1. Literature Review

- **Creative Commons**
  - Definition and treatment of copyright and licensing of AI.
  - Creative Commons Summitt 2023 it were raised principles to address copyright to AI and standout following:
    - availability of works for creation of new and/or derived works.
    - creators and copyright holders decide whether works might be used by AI
    - use of copyrighted works to train AI: non-commercial licenses and Fair Use
    - share economic benefits equally
  - Contributions of Creative Commons for addressing the phenomenon of copyright and AI:
    - "CC defendes better sharing and the commons in WIPO …": (Creative Commons, 2023b).
    - "CC Join Key Panel In Brussels" (Creative Commons, 2023a) and "European Parliament gives green light to AI Act …" (Creative Commons, 2023b)
    - "CC responds to the United States Copyright Offices …" (Creative Commons, 2023c)

1. Literature Review

- *Regional approach*.

- *Europe approach*
    - *Analysis of* copyright and AI based on three regulations: Berne Convention, the WIPO Copyright Treaty and Agreement on Trade Related Aspects of Intellectual Property Rights (TRIP)
        - Leave interpretation of organizations define concepts of authorship, ownership and creation of works produced by AI (Ballardini, He and Roos, 2018, p.5)
    - European Commission-The Artificial Intelligence Act (AIA) (2022): first legal framework on AI worldwide.
    - European Artificial Intelligence Board (EAIB) was created to propose reforms measures and begin operate at 2024.
    - The AIA:
        - understanding objectives of the future AI Law; concrete actions; adapt and prepare for future implementation; build additional trust in AI technologies.
        - four levels of risk in AI: unacceptable; high (related with risks to the health and safety of individuals or affect rights), limited and minimal. (Worsdorfed, 2023)
        - guide implementation of key points of AIA from Europe and beyond
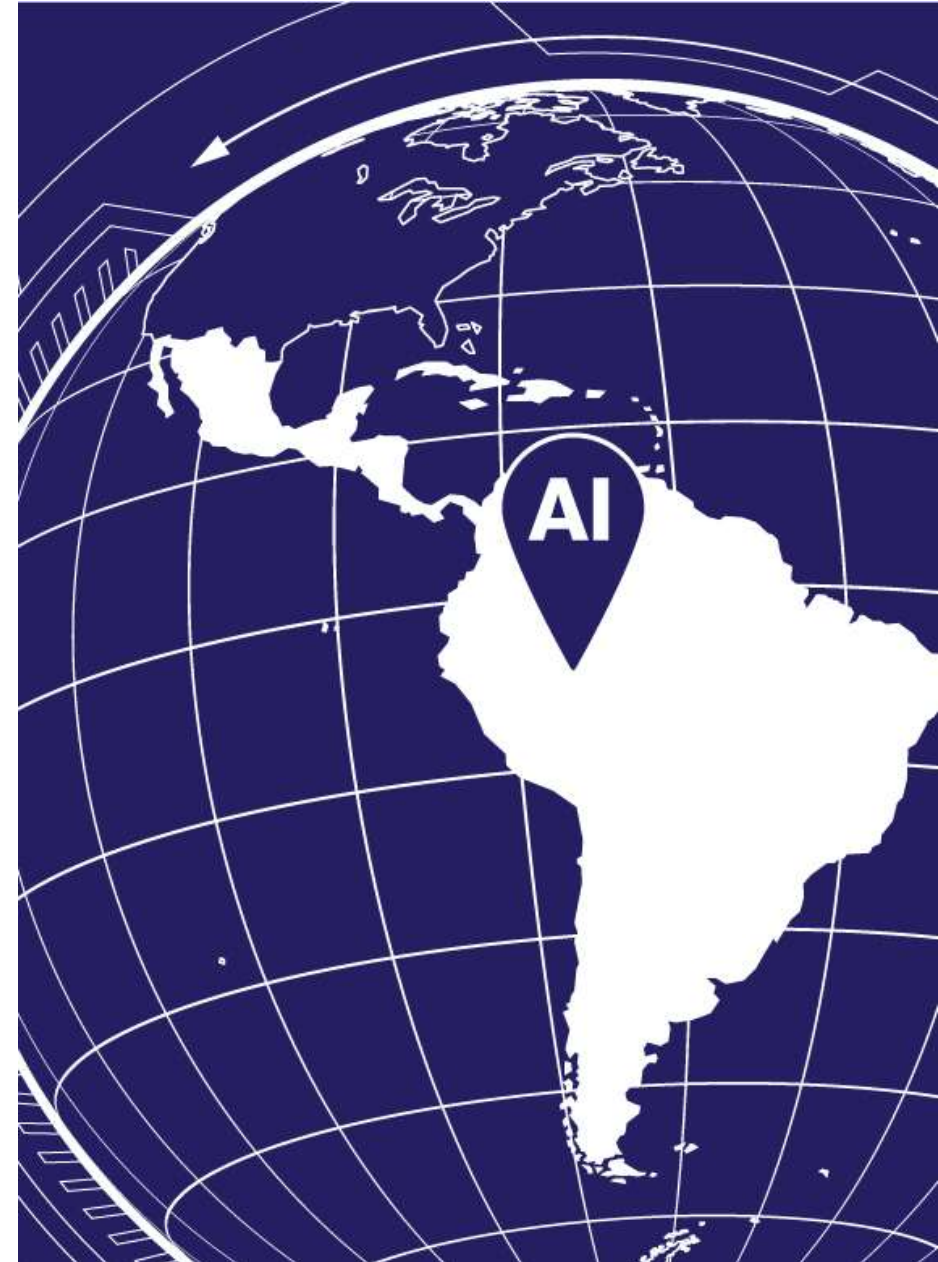
1. Literature Review

- *North America approach*.

- AI raises new questions and lacks in the legislation about whether the AI might be author (Butler, 1984)

- U.S. government discusses based on the Copyright Act, 1976. (Koroye, n/d, p. 12; Zirpoli, 2023, p. 1)
  - does not provide standards to protect the authorship of works generated by AI.
  - inclined towards such works being destined for the public domain
  - authorship is only designated for works created by humans

- US Copyright Office (2023) announced:
  - "AI may be copyrightable, provided the work involves sufficient human authorship."
  - Depend how the AI tool operates and how it was used to create the final work." (Library of Congress, 2023

- Fair Use doctrine linked to AI:
  - Advocates that expressions might be used for research and/or education, among other.

1. Literature Review

- *Latin American approach.*

- Trend ethical use of AI. The world needs stricter ethical standards for artificial intelligence" (Azoulay, 2023, *cf.* Silva, 2023)

- Two references as basis:

  1. Economic Commission for Latin America and the Caribbean (ECLAC):

     - Latin American Artificial Intelligence Index (ILIA): compile "…information on the current situation in three key dimensions: Enabling Factors, Research and Development, and Governance" and public policies. (CEPAL, 2023).

    - 2. Organization for Economic Co-operation and Development, (OECD)

      - First intergovernmental standard on AI.

      - OECD Recommendation: foster innovation and trust in AI by promoting the responsible stewardship of trustworthy AI while ensuring respect for human rights and democratic values." (OECD, 2023, p. 1)

      - Need to shape a stable policy environment at the international level to foster trust in and adoption of AI in society

- Governments views from Latin American about AI:

  - AI must be aligned with transparency issues; sustainability; economic and social benefit; development of an ethical framework; educational and employment policies with the use of AI; personal data protection; ethical operation of systems; among other topics related to the region. (Silva, 2023)

- Copyright legislation of products that uses and produces AI is a topic of debate and interest for different organizations and institutions at a global level

2. Methodology

Literature review methodology, as well as quantitative methods.

Main problem: How to legislate ownership of data and research outputs that uses and produces AI.

Aim: study and identify the copyright regulations and open licenses for data and research outputs from Latin America.

Hypothesis: AI is an informative action linked with libraries, and both the action and the actor respectively are articulated to satisfy information needs.

Quantitative methodology: Exploratory, Descriptive, Explanatory, Predictive.

Exploratory analysis: random sample of 16 Latin American countries; official websites of Governments, Universities, Libraries; WIPO Lex Data Search; OECD.AI Observatory National AI policies & strategies; Latin American Artificial Intelligence Index; Database Flexibilities to Copyright in Latin America; and Creative Commons chapter by country and monitoring content on networks and groups about topic of study.

Search and retrieval based on a set of five defined variables: National Strategies; Open Science regulations; Copyright Laws; Open Licenses; Exceptions and limitations.

3. Findings

Country	Argentina	Brazil	Chile	Colombia	Costa Rica	Cuba	Ecuador	Guatemala	Honduras	Mexico	Panama	Paraguay	Peru	República Dominica	Uruguay
National Strategies	x	x	x	x	x	x	d	d	d	x	d	d	x	d	x
Open Science Regulations	i	x	i	i		i		i	i	i	i		i	i	i
Copyright laws	i	x	i	i	i	i	i	i	i	x	i	i	i	i	x
Open Licenses		x		x						x					x
Exceptions and Limitations	fu	fu/ai	fu	fu	fu		fu	fu	fu	fu	fu	fu	fu	fu	fu/ai

"x" to indicate that countries meet variable.

"d" to refer those countries that have the study variable in development.

"i", to indicate that variable is interpreted and intrinsic on analysis.

"fu", to indicate that there are norms that foster fair use (f) for protect uses educational, scientific and non-profit of informatic expressions and AI

3. Findings

General findings:	Fifteen countries analyzed

Nine have national strategy about AI	Twelve countries have access and open science regulations,	Three countries specific factors of AI in copyright laws	Four countries have implementation of open licenses linked with AI,	Fourteen countries do widely used for exceptions Fair Use,
Six in development	One content factors of AI and eleven intrinsic on regulations	Twelve countries refer factors about legislate computer programs and databases	Creative Commons chapters by country from LAC do not indicated actions and/or relationship about AI	This finding does not indicate relation about AI,

One country from Latin America has development a proposed text model like exception for legislate AI, focused in Fair Use and Text and Data Mining linked with AI

3. Findings

Brazil

National Strategies. Brazil has AI Strategy (2021) for "... guiding the actions of the Brazilian State in favor of the development of actions, in its various aspects, that stimulate research, innovation, and development of solutions in Artificial Intelligence, as well as its conscious, ethical, and in favor of a better future use. (OECD.AI, 2022) Likewise, Brazil's strategy reaffirms commitment to the OECD Principles on AI. (OECD, 2022) To date, Brazil has a proposal for AI regulation that the Senate of this country is examining, and it is the "Ley No. 2338/2023: Dispõe sobre o uso da Inteligência Artificial" (Pacheco, 2023) which seeks to establish principles, rules, and guidelines to regulate the development and application of AI in the country. Particularly, this proposed legislation includes meaningful aspects on the regulation of copyright and AI.

Open Science regulations. The proposal of "Ley No. 2338/2023" It is framed in the context of the openness of science (Pacheco, 2023, p. 16) since it is in favor of the treatment and management of open data for the training of AI. Also, in 2022 the National Council for Scientific and Technological Development (CNPq) and University of Sao Paulo signed on an agreement that formalizes the sharing of research data between these different organizations, such as the National Consortium for Open Science, and with other open data platforms like Lattes (CNPq, 2022). The Instituto Brasileiro de Informação em Ciência e Tecnologia (IBICT) published the "Manifesto of open access to Brazilian research data for citizen science" (Instituto Brasileiro de Informação em Ciência e Tecnologia, 2016) in which he states that research data are essential resources for open science. (Babini y Rovelli, 2020). Therefore, it is delimited that both the bill and the regulations on open science are linked to address aspects of AI legislation.

Copyright Laws. The proposal "Ley No, 2338/2023" Section III states 'Measures to promote innovation', and articles 42 and 42 establish the elements of copyright related to AI; (Pacheco, 2023, pp. 26-27) Likewise, Section IV Public AI Databases indicates the authorities responsible for creating and maintaining AI bases. (Pacheco, 2023, p. 28). Also, the "Law No. 9.610 of February 19, 1998 (Law on Copyright and Neighboring Rights, as amended up to Provisional Measure No. 907 of November 26, 2019)" It is responsible for regulating moral and patrimonial copyrights in Brazil. (WIPO, Lex, 2022); and the "Law No. 9.609 of February 19, 1998 (Software Protection Law), (WIPO, Lex, 2022) refers to the ownership of rights of the owner of a computer program. (Díaz, 2021)

Licenses. The Creative Commons Brazil chapter (2023) notes that AI training should be associated with copyright and Fair Use, "since…fair use should allow the use of copyrighted works as training data for models generative AI" (Wolfson, 2023)

Exceptions and limitations. In chapter IV, articles 30, 46, 47 and 48 of the "Law No. 9.610 of February 19, 1998 …" the main limitations to copyright are pointed out, regarding reproduction, citation, paraphrase. (Díaz, 2021) In this sense, Brazil's Creative Commons chapter promotes the Fair Use exception for AI training. (Wolfson, 2023)

Chile

National Strategies. Chile has AI National Policy with aims of empower citizens in the development and application of AI tools, to develop AI-enabling factors which encompass development of human capital, technological infrastructure, and data availability, to foster the use and development of AI which encompasses research, development, innovation, and entrepreneurship based on AI systems, and to discuss and reach consensus about ethics, standards, cybersecurity and regulation. Chilean policy covers three pillars: (1) enabling factors, (2) development and adoption of AI (3) ethics, regulatory aspects and socio-economic impacts. (OECD.AI, 2022), Furthermore, another relevant strategy is the Santiago Declaration (2023), which seeks to establish an intergovernmental AI Council in Latin America and the Caribbean, with the objective of transforming and regulating the implementation of said technology in the region in accordance with the features of the cultures of said region in accordance with the UNESCO AI Ethics Recommendation.

Open Science regulations. The national AI policy in its objective 3.4.1 about an 'updated intellectual property system', and the subtheme "Promote the development and adoption of AI while safeguarding the rights of creators and innovators", refers to being in favor of openness and interoperability of databases and software linked to AI in balance with the rights and obligations of creators and innovators to benefit society with derived products. (MinCiencia, 2019, pp. 60-61) Likewise, Chile published the "Policy Proposal for open access to scientific information and research data financed with public funds from ANID", (Agencia Nacional de Investigación y Desarrollo, 2020) which seeks to strengthen the open access green route; and this policy is a proposal framework for AI, based on data sharing and accessibility. (UNESCO, Chile: AI, 2023, pp. 17-18) For its part, the Santiago Declaration recognizes the relevance of universal access to information and technologies for the enjoyment of human rights and achieving the Sustainable Development Goals. (2023, p. 2) From the analysis of this regulation, it is interpreted that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. The "Ley 17336. Propiedad Intelectual" (2019) legislates the rights and obligations of the country's intellectual, artistic and heritage creations and innovations; and among which includes computer programs, "whatever the mode or form of expression"; as well as "compilations of data or other materials, in machine-readable form or in another form" (Ley 17336, 2019, p. 2) In parallel, the Santiago Declaration highlights the relevance of developing and applying public policies, legal norms, national plans and strategies for the ethical use of tools and data for AI training (2023, pp. 2-4).

Licenses. Objective 3.4.1 about an updated intellectual property system of the national AI policy contemplates the use of open licenses aligned with the country's internal regulations and in accordance with the global legal and commercial flow. (MinCiencia, 2019, p. 60) The Creative Commons Chile chapter does not refer to information for the treatment of AI.

Exceptions and limitations. Chile through "Ley 17336", article 18, regarding the uses authorized by the authors, refers to the use of Fair Use for the distribution of works, which contributes to title III, article 71 paragraphs from A to S, which are refer to the implementation of limitations and exceptions to copyright and related rights. (Díaz, 2021, p. pp. 58-60) Despite these prerogatives, no exceptions and/or limitations on AI are specified.

Colombia

National Strategies. Colombia has an "AI National Strategy" (2019) with aim of increasing the creation of social and economic value through the digital transformation of the public sector and the private sector, through the reduction of barriers, the strengthening of human capital and the development of enabling conditions. The strategy has 14 lines of action, such as: Reduce barriers; Develop regulatory and institutional adjustments; Improve the performance of digital government policy; international alliances for innovation; promote innovation; execute high-impact initiatives; generate digital skills and competences; configuration of innovation ecosystem; International alliances; preparation of education on AI; generate the enabling conditions to boost AI and promote the development of digital technologies. (OECD.AI, 2022)

Open Science regulations. Colombia has "National Open Science Policy 2022-2031" (Colombia, 2022b), with the objective of increasing the visibility, access, reproducibility and usefulness of Colombian scientific and innovation resources, products and outputs, as well as such as providing legal framework, guidelines and guidelines for treatment of open access to research data. The policy is based on five specific objectives and on which it develops a set of particular strategies and goals. An instrument that guides open data policy of this country is the "Guidelines for the implementation of open data" (Colombia, 2022), which provides a guide for the operability of an Open Data Model, which has as purpose to promote society's unrestricted access to publicly funded data. From the analysis of this regulation, it is interpreted that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. Colombia's national AI strategy will work in coordination with the National Copyright Directorate of said country, with the objective of addressing issues related to the link between copyright and AI. (CONPES, 2019, page 45) Likewise, the "Ley N° 23 de 1982 sobre Derechos de Autor (modificada por la Ley N° 1915 de 2018" (Colombia, 2018), regulates moral and economic rights, as well as the intellectual creations of authors; However, said Law does not refer to the legislation on AI and/or derivatives.

Licenses. The regulations of the Copyright Law and the Creative Commons chapter of Colombia do not refer information and / or link between open licenses and AI.

Exceptions and limitations. The "Ley N° 23 de 1982 sobre Derechos de Autor (modificada por la Ley N° 1915 de 2018)" in its chapter III, articles 31 to 44, 98, 140, 164, 178, the main exceptions and limitations are referred to, such as distribution, quotes, property rights; and based on article 32, the implementation of Fair Use for teaching purposes refers; and article 38 refers to exceptions to reproduction by libraries for non-profit use; (Díaz, 2021, pp. 60-67); However, the aforementioned Law does not specify elements on AI copyright legislation.

3. Findings

Ecuador

National Strategies. Ecuador develops an Artificial Intelligence Strategy, aligned with the Digital Agenda (Albornoz, 2020; República del Ecuador, 2021, p. 3).

Open Science regulations. In the Development of the National AI Strategy of Ecuador, it is contemplated to deepen Universal Access to Information and Communication Technologies (República del Ecuador, 2021, p. 26); However, Ecuador does not have a regulation on open science, and therefore without links to AI.

Copyright Laws. The "Código Orgánico de la Economía Social de los Conocimientos, Creatividad e Innovación (Código Ingenios)" (2016), it the regulation that legislate copyright in Ecuador; and articles 107, 123, 125, 130, 134, 137, 156 refer to the aspects of communication, transmission, use of protected works, among other topics; (Díaz, 2021, pp. 68-73); However, no factors are pointed out about legislating AI issues.

Licenses. Article 4 of "Código Orgánico de la Economía Social de los Conocimientos, Creatividad e Innovación (Código Ingenios)" (2016), points out that "Knowledge constitutes a good of public interest, its access will be free and will not have more restrictions than those established in this Code, the Constitution, international treaties and the Law and, its distribution will be carried out in a fair, equitable and democratic manner. "; Furthermore, articles 118, 120 and 126 of the same code are consistent with Creative Commons licenses, since they contribute to the democratization of information (Bustamante, 2019, p. 9; 12); However, the aforementioned code and the Creative Commons chapter of Ecuador do not refer to information about legislating AI licenses.

Exceptions and limitations. The second paragraph of "Código Orgánico de la Economía Social de los Conocimientos, Creatividad e Innovación (Código Ingenios)" (2016), they refer to exceptions and limitations, such as Fair Use for public, judicial, educational, scientific, cultural purposes, among others. (Díaz, 2021, p. 69) Despite these prerogatives, no exceptions and/or limitations on AI are specified.

Guatemala

National Strategies. Guatemala has a bill to legislate AI, which is being evaluated by the Senate of this country. (Gobierno de la República de Guatemala, 2023), In addition, Guatemala was adhered to the Santiago Declaration (2023) to work on issues linked to AI, and doe this objective, Guatemala is committed to incorporating AI in various areas of public administration, to digitize public services and guarantee the use ethical and responsible for the information collected by the country's Institutions.

Open Science regulations. Guatemala formulated a National Open Data Policy with the purpose of putting it into practice in all Agencies of the Executive Branch, to expand and improve access to public information. (República de Guatemala, 2018). From the analysis of this regulation, it might be interpreted that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. The "Ley de Derechos de Autor y Derechos Conexos" of Guatemala legislates the moral and patrimonial rights of the authors, artists and performers of said country, and points in its article 4 to the "Computer program: The work constituted by a set of instructions expressed through words, codes, plans or in any other form, that when incorporated into a machine-readable medium, is capable of causing a computer to execute a certain task or obtain a certain result." (Congreso de la República de Guatemala, 2006, p. 3). Likewise, the second section, articles 30 to 35 on computer programs and databases, protects such products under the same terms as literary works; and although specificity factors are not referred to to legislate AI, such regulations might be interpreted as references for legislate said technology.

Licenses. The use of licenses for open data is indicated in the Public Policy of Guatemala (República de Guatemala, 2018, pp. 67-69); However, no application is referred to AI. However, no information is referred about AI.

Exceptions and limitations. The "Ley de Derechos de Autor y Derechos Conexos" title IV, articles 63 to 71 outline a set of limitations, and states that protected works for educational, non-profit, and judicial uses may be communicated without the need for authorization; uses and reproductions by libraries; (Congreso de la República de Guatemala, 2006, pp. 15-16) However, it does not refer to specificity about AI.

México

National Strategies. Mexico is considered to have developed the first initiative in Latin America to legislate AI through "Estrategia IA-MX 2018.1" (2018), which aims to develop "three main actions for the public sector: create an AI subcommittee to promote dialogue and multisectoral approaches; identify best governance practices; and promote Mexico's international leadership in international forums." (OECD, 2022); and this strategy mainly prioritises: AI policy governance. (OECD.AI, 2022) At date, the Mexican Senate analyzes and debates the regulation of artificial intelligence in terms of intellectual property and copyright, since one of the challenges is to protect the creators of goods or services in the face of the advance of this technology. (Soto, 2023)

Open Science regulations. In 2019, an update of the Political Constitution of Mexico in its article 3. Fracc. V. indicates that the State will support and guarantee open access to information derived from scientific research (Mexico, 2022). Approved legislating open access and institutional repositories through a national policy on this matter with the support of the National Council of Science and Technology (CONACyT), (Mexico, 2014). Based on these regulations, the national repository is developed, which is a platform for the dissemination of scientific production financed with public funds. Likewise, the "Legal Guidelines on Open Science" were published (National Council of Science and Technology, 2017), which outline the intellectual property rights for open science, as well as emphasize the policies and operation of the national repository and institutional repositories. From the analysis of this regulation, it might be interpreted that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. The "Ley Federal de Derecho de Autor" of México (2020), it is the instrument that regulates the rights and obligations of authors who produce various types of literary and/or artistic manifestations. The law in its chapter IV, "Computer programs and databases" articles 101 to 114 defines the protection of such expressions; (2020, pp. 18-20) However, factors linked to legislating AI are not specified, so such regulations can be interpreted as bases to regulate the copyright of said technology.

Licenses. The "Ley Federal de Derecho de Autor" of México (2020), in its article 152, (pp.32-33), it addresses the use of works in the public domain, which might be interpreted as binding on the use of open licenses. The Creative Commons Mexico chapter participated in the definition of considerations and seven principles to address the issue of granting copyright to AI. (Creative Commons, 2023)

Exceptions and limitations. The "Ley Federal de Derecho de Autor" of México (2020), articles 147 to 151 define a set of limitations on the use of protected expressions, such as whether they are used without profit, for reproduction for educational, scientific and library purposes (pp. 31-80). However, these prerogatives do not specify exceptions and/or limitations on AI.

3. Findings

Paraguay

National Strategies. Paraguay is developing a proposal for an AI regulation strategy focused on aspects of sovereignty, protection of personal data, inclusion, development, social benefits; and to develop said instrument, it will analyze the cases of neighboring Latin American countries that have already developed and implemented these regulations. (Venegas, 2023)

Open Science regulations. Paraguay fosters the study of open science in HEI through webinars on "the new Paraguayan science", within the framework of the XVII edition of open science (Ciencia del Sur, 2020). To date, this country has not developed regulations on open access and/or open science; therefore, no information is retrieval about the relationship between openness of science and AI.

Copyright Laws. La "Ley N° 1328/1998 de Derecho de Autor y Derechos Conexos" (2010) of Paraguay its objective is the protection of authors and holders of rights over literary or artistic works from the holders of rights related to copyright and other intellectual rights. Article 2 of the aforementioned Law defines the products that are subject to legislation and indicates the "Computer program (software): expression of a set of instructions through words, codes, plans or in any other form that, when incorporated into an automated reading device, is capable of causing a computer to execute a task or obtain a result. The computer program also includes technical documentation and user manuals. (Ley N° 1328/1998, 2010, pp. 1-2). Likewise, chapter II, articles 67 to 73 of the said Law (pp-19-20) describes the regulation of copyright of computer programs in the same terms as literary works; and although the aforementioned Law does not specify the regulation of AI, these rules might be interpreted as the basis for the regulation of the copyright of this technology.

Licenses. The "Ley N° 1328/1998", in its title VI, articles 54 and 55, (p. 17) it indicates those works that might become public domain, which is associated with Creative Commons licenses in order to promote barrier-free access to products that meet the criteria required by the National Directorate of Copyright of Paraguay. Paraguay's Creative Commons chapter does not provide information on the link between open licenses and AI.

Exceptions and limitations. The "Ley N° 1328/1998", in its title V, chapter I, articles 38 to 46, (pp. 13-15), it delimits a set of exceptions for using products subject to copyright without authorization, such as: non-profit communication; lending by libraries; public disclosure; among other; all of them with due recognition to the authors who created them. Despite these prerogatives, no exceptions and/or limitations on AI are specified.

República Dominicana

National Strategies. The Dominican Republic has the National Artificial Intelligence Strategy (ENIA) with the objective of creating a public policy for the citizens of this country. The ENIA is made up of three initiatives that are the following: smart government program; HUB of human talent and innovation; Data center. In addition, the ENIA seeks to be a pillar in AI for regional collaboration. (ENIA, 2023, p. 14)

Open Science regulations. The Dominican Republic is part of the 'CSUCA Open Science Declaration' (Central American Higher University Center) (2023) with the aim of implementing actions and policies on the opening of science. In addition, there are studies that suggest some challenges and trends for this country to enhance the development of open science, such as the following: information literacy; design public policies on open science; collaboration between local academic and non-academic institutions; financial support of scientific work in society; investment in human capital. (Madé & Gómez, 2022, p. 76-78) The Dominican Republic has a General Law of Free Access to Public Information (Ley de General de Libre Acceso a la Información Pública No. 200-04, 2014), and although its focus is not on disseminating science, it is a significant contribution to the development of the information access movement. (Madé & Gómez, 2022, p. 76) From the analysis of this regulation, it is identified that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. The "Ley. 65-00 sobre Derecho de autor "(2000), in its article 1. Define the rights of authors and owners of literary, artistic works and the literary or artistic form of scientific works; and in article 16 of said Law, it point out the types of expressions subject to legislation, and states that computer programs will be protected in the same terms as literary works; (p. 2) and considers such expressions as follows: "Computer programs: expression of a set of instructions through words, codes, plans or in any other form that, when incorporated into an automated reading device, is capable of cause a computer or other type of machine to perform a task or obtain a result." (p. 7) Likewise, in chapter III, articles 73 to 75 specify the regulation of computer programs; and although said Law does not specify the regulation of AI, the referred articles might be interpreted to implement the regulation of the copyright of this technology.

Licenses. The "Ley No. 65-00" of República Dominicana, articles 146 to 148 point out the elements to determine that a work becomes public domain, which might be considered an element that contributes to open licensing. The Creative Commons chapter of the Dominican Republic does not refer information on the link between open licenses and AI.

Exceptions and limitations. The "Ley No. 65-00" of República Dominicana, title IV, Chapter I, articles 30 to 43, (pp. 12-14) specifies a series of exceptions to reproduce, communicate and distribute the products it protects that are authorized by the authors, such as: non-profit use, use public ; educational and scientific purposes, reproduction by libraries, among other cases, always with due recognition to the authors who created the expressions. However, these prerogatives do not specify exceptions and/or limitations to AI.

Uruguay

National Strategies. Uruguay has an "AI Strategy for The Digital Government" (2019), with aims of promote and strengthen the responsible use of AI in Public Administration; to advance capacity development for AI; to advance use and application of AI. Strategy mainly prioritizes: AI policy governance; and to advance digital citizenship and AI. (OECD.AI, 2022) Uruguay's AI policy has an independent agency authorized by law with competences in AI; and focuses on regulating cybersecurity, data protection and sandboxes. (ILIA, 2023, p. 242)

Open Science regulations. Based on Law 19179 on free software and open formats, "its use is provided for the processing and conservation of data by state organizations and companies where the state has a majority shareholding." (República Oriental del Uruguay, 2014). This country collaborated in the consultation for the "UNESCO Recommendation on Open Science", (República Oriental del Uruguay, 2020) to support the international initiative for the roadmap on this movement. Likewise, AI policy is now part of a broader initiative that encompasses data management in public administration. This data policy and strategy for Digital Transformation establish the fundamental principles of government data as well as the organizational ecosystem to carry out a national data strategy that promotes and develops specific projects. (OECD.AI, 2022) therefore, it might be interpreted that there is an intrinsic relationship with AI factors from the massive processing of data to train said technology.

Copyright Laws. The "Ley N° 9739 de Derechos de Autor (promulgada el 17 de diciembre de 1937)" (2020), in its article 1, it defines that "it protects the moral right of the author of all literary, scientific or artistic creation and recognizes the right of ownership over the productions of his thought, science or art, subject to what is established by common law" (page 1). Article 5 of said Law defines the types of expressions it protects, and identifies "Computer programs, whether source programs or object programs; compilations of data or other materials, in any form, that for reasons of the selection or arrangement of their contents constitute creations of an intellectual nature. This protection does not extend to the data or materials themselves and is without prejudice to any copyright that subsists in respect of the data or materials contained in the compilation. The expression of ideas, information and algorithms, as long as they are formulated in original sequences ordered in an appropriate manner for use by an information processing or automatic control device, is protected in the same way." (p. 4) Article 53-BIS, specific in the elements to regulate copyright of computer programs; and although said Law of Uruguay does not specify the regulation of AI, the referred articles might be interpreted to implement the regulation of the copyright of this technology.

Licenses. The "Ley N° 9739 de Derechos de Autor" of Uruguay, article 42 refers to the public domain of works so that anyone can exploit them and be subject to the rates set by the Copyright Council. (p. 19) The Creative Commons Uruguay chapter does not refer information on the implementation of open licenses and AI; However, it participated in the definition of considerations and seven principles to address the issue of granting copyright to AI. (Creative Commons, 2023)

Exceptions and limitations. The "Ley N° 9739 de Derechos de Autor" of Uruguay, in its article 44 (p. 20) point out a series of elements to define the illicit reproduction of an expression, such as: without the authorization of the author; and article 45 delimits the factors for what is not illicit reproduction, such as: use for teaching; judicial processes; non-profit, and always give credit to the authors of the expressions (p. 22) However, these prerogatives do not specify exceptions and/or limitations on AI. Also, the Datysoc project: Data and Society

4. Discussion and Challenges

WIPO

leaves to the consideration of each country interpretation of ownership of expressions by AI

Based on Berne Convention: owners and responsible for the expressions produced by AI are the programmers.

Constant researching and developing actions and instruments for understand AI. (WIPO, 2024).

IFLA

proposes that the concept of authorship maintain its essence and definition, and designate humans as said actor

designate those in charge of the development of computer programs and algorithms

advocates that AI copyrights be legislated with neutrality

encourages exceptions such as Fair Use and TDM

Creative Commons

advised both the European and North American regions regarding promoting Fair Use and licenses

advocates promoting licenses for TDM

licenses and AI is intrinsic given the use that this technology makes of the data

'purpose' of expressions used=type of license.

4. Discussion and Challenges

European region

Copyright and AI has been dynamic

delimiting the risks of the implementation of AI: ensure that citizens are not affected

ownership of what is produced by AI is uncertain and generates uncertainty

AI has not legal personality

AI: public domain (Koroye, n/d, p. 11; Souza, 2021, pp. 135-36)

North America

dynamic in the analysis of legislating copyright AI

authority, creativity and ownership of expressions by AI must be awarded to persons or organizations with legal personality.

fair Use and AI for purposes academic, research, preserve access to information. (Berkeley Library, 2023)

Latin America

AI legislation is advancing gradually

proof findings to regulate AI in a focus on human rights, ethical use and integrity of the societies.

long tradition of protecting the use made of the expressions of third parties: AI raises doubts and concerns

mainstream exceptions, limitations and licensing accord with Latin America to legislate AI.

at date no country has incorporated and implemented any exception, limitation and/or license about AI. (WIPO Lex data; Marzetti, 2022, p. 29)

The Latin American Civil Society Alliance stands out: model legal text exception to copyright to promote TDM and other modern research methodologies

4. Discussion and Challenges

National Strategies

- 2018 to date countries from LAC region have developed instruments to outline actions of challenges posed by AI. (OECD, 2022)
- Latin American region is focused on addressing the ethical, moral, educational and administrative use of countries with AI
- national strategies by country do not refer to factors for the regulation of the use and/or production of expressions by AI
  - leaves in the background the recognition of the authorship of the expressions that the AI
  - might be led to cases of plagiarism. (Chomsky, 2023)

Challenges:

- legislation of AI requires to be tightened and part of national plans of action
- reviews and updates to the regulatory frameworks to legislate
- foster harmonize with the regulations, social and cultural values
- create a Latin American regional body (OECD, 2022)

4. Discussion and Challenges

- **Open Science regulations**
  - AI linked with openness of science, (UNESCO, Outlook, 2023, pp. 19-20)
  - AI is an informational action linked with LIS.
- Challenges
  - regulations of open science require including aspects about AI
  - IA must incorporate in its conditions and policies of use the granting of recognition and/or citing
  - harmonize routes for both open and AI actors (UNESCO, AI. 2023, p.48)
  - development an copyright exceptions for AI-TDM as taxonomy of openness

4. Discussion and Challenges

- **Copyright Laws.**

- Focused in:
    - studying three main concepts: authority and ownership; computer expressions; exceptions
    - LAC countries with proposal of legislate: AI could have rights and obligations
    - LAC countries without proposal of legislate AI: authorship attributed to human persons and institutions with legal personality

- Findings are associated with the labor systems of the countries: (Ley Federal del Trabajo de México, 2020; OECD, 2007, p. 14; OMPI, 2016, p. 20)
    - goods and services created by moral right corresponds personality and/or entity that created it
    - reproduction, distribution, communication and transformation by heritage right is owned entity

- copyright laws protected computer programs, computing and databases is significant
    - bases for legislating the AI
    - AI expression developed with computer and algorithmic factors

- copyright laws must be outlined owners and/or creators of expressions used and/or created by AI: being recognized and cited, strategies to avoid the assumption of plagiarism

- Challenges:
    - promote the updating of the concepts of authorship and/or ownership: programmers and computer scientists (WIPO, IFLA and Creative Commons)
    - including AI as a type of expression that protects copyright laws, derived from computer and IT
    - exceptions regarding Fair Use and TDM in AI
   - Legislate expressions by AI linked with universal human right
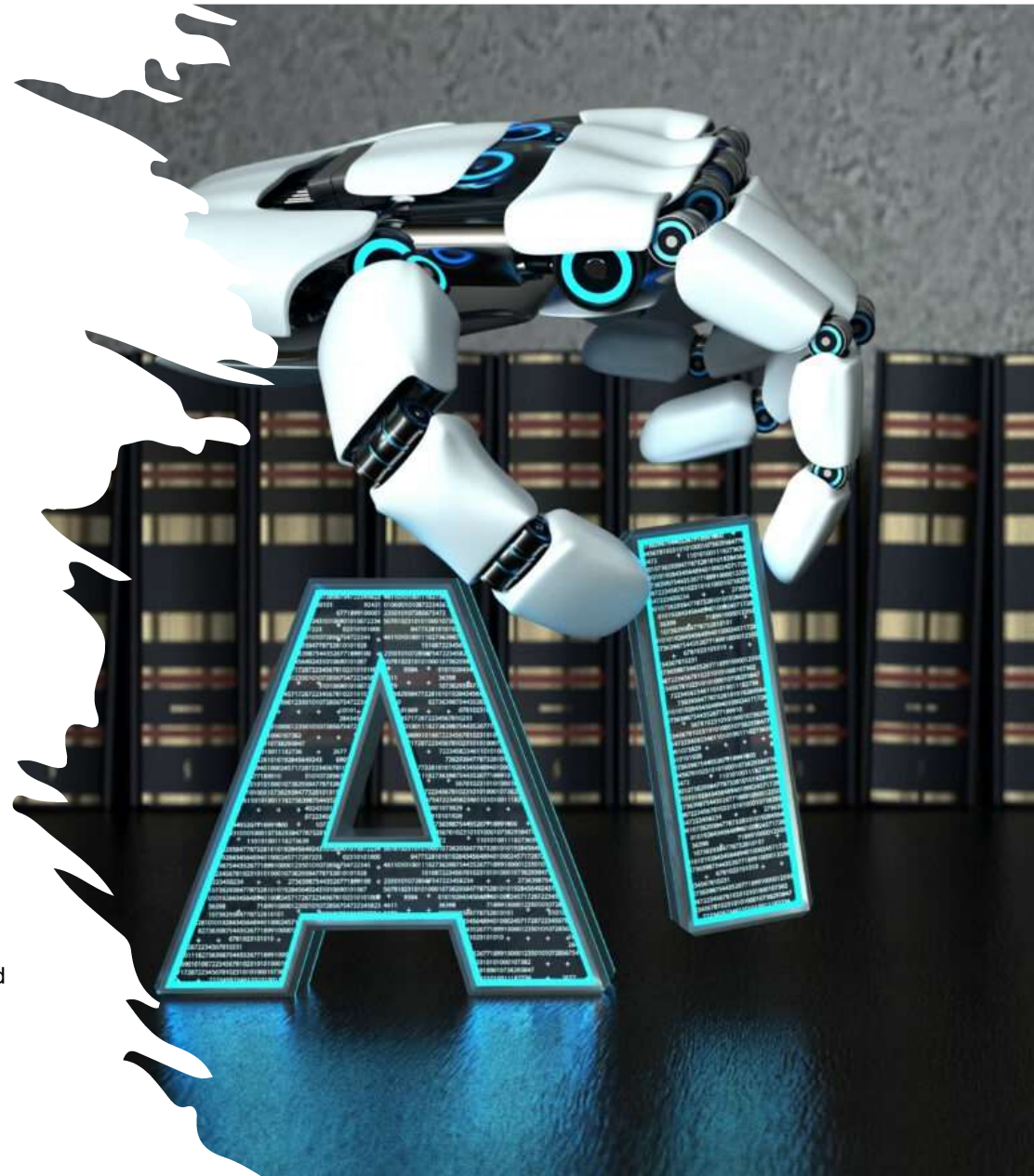
4. Discussion and Challenges

- **Open Licenses.**
  - Creative Commos organization has contributed to the discussion in the European and North American region to legislate AI
  - licensing of expressions used and produced by AI requires investigation
  - Licensing is not associated in copyright laws: guarantees of 'good intention'
  - Open licensing and copyright laws from Latin America are encouraging public domain of AI
  - Initiatives by Creative Commons chapters from Latin American about licensing and AI:
    - did not refer to proposals
    - principles established in the 2023 CC Summit
  - Challenges
    - UNESCO has proposed open licenses to AI:
      - Attribution (By); Non-Commercial (NC); No-Derivatives (ND); and Share-Alike (SA) (2023, p. 51)
    - Open Data Commons program and Open Data Creative Commons of the Open Knowledge Foundation:
      - Creative Commons Zero (CC0-1.0); open Dat Commons Public Domain Dedication and License (PDDL-1.0); Open Data Commons Attribution License (ODC-By-1.0); ADN Open Data Commons Open Database License (ODbL-1.0).
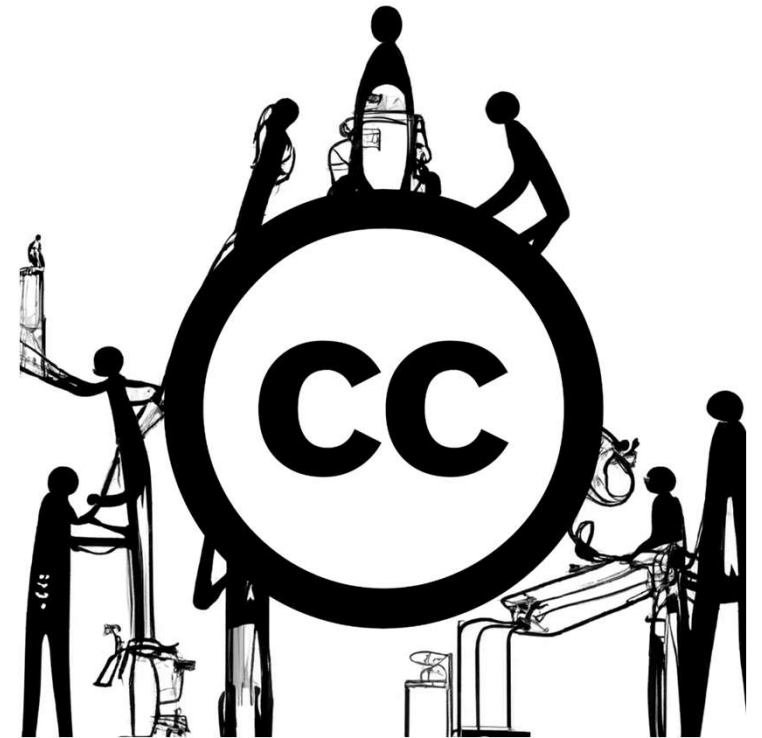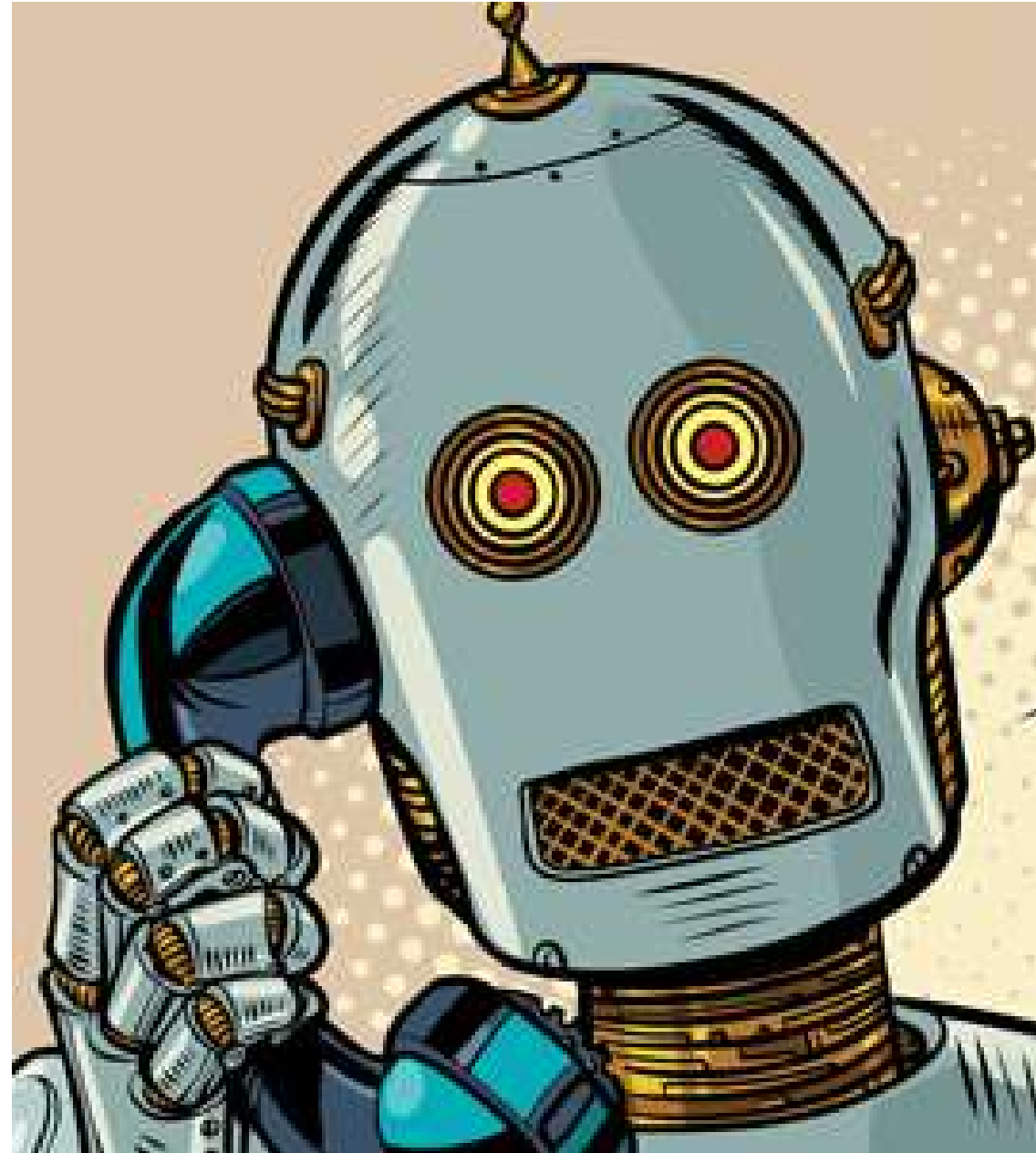
4. Discussion and Challenges

- **Exceptions and limitations**
  - Copyright laws from Latin American countries are focused on promoting certain uses of expressions without the authorization of the authors
  - Laws the exception Fair Use stand out :
    - guarantee foster use and production of AI expressions for educational, scientific, judicial, non-profit uses
    - findings obtained do not refer exceptions for AI
    - to protect the use of literary, artistic expressions, computer programs, databases:
    - those expressions that use and produce AI might be subject to different uses, as long as the recognition and/or attribution of authorship is justified
  - Challenges:
    - exception to the right to research through TDM stands out; (Bertón, 2021, p. 1149)
    - computational analysis are legitimate without contractual restrictions, (Días & Rangel, 2023, pp. 28-29)

4. Discussion and Challenges

- *Artificial Intelligence in praxis:*
- What does generative AI (ChatGPT) say to about whom belongs copyright of the expressions you use and produce?
- What bibliography styles (APA, Chicago, Harvard) say about the record of products used and/or created by AI?

4. Discussion and Challenges

- **1. Chat GPT: Interview**
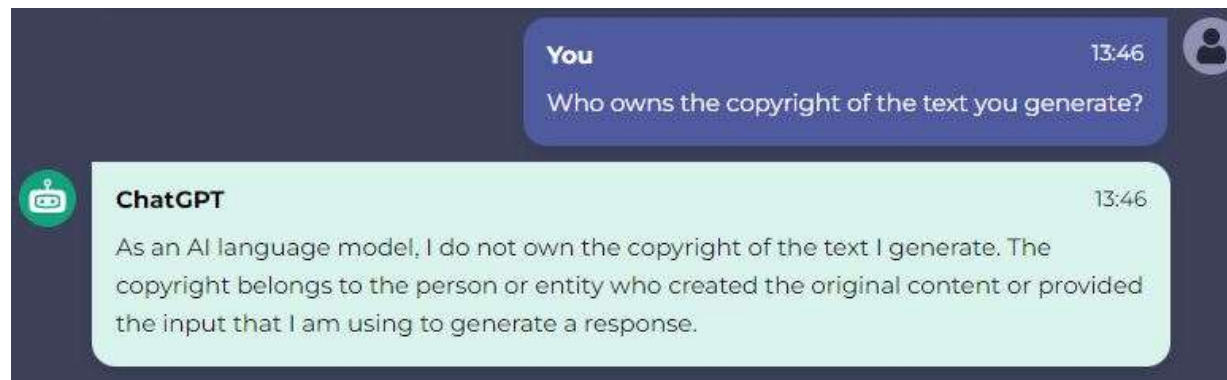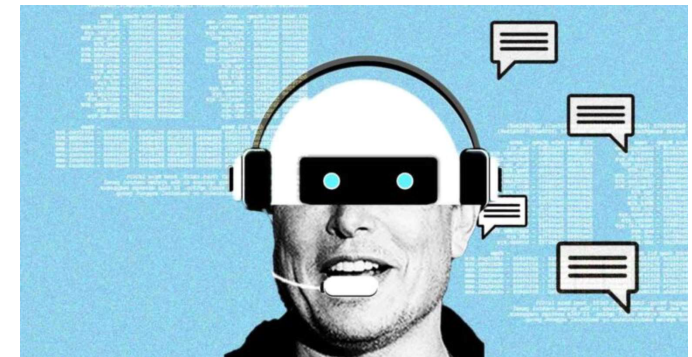- Who owns the copyright of the text you generate? (UniSA, 2024)

Image: (UniSA, 2024)

- AI answers stand out:
  - person and/or entity that created the original content
  - provided the input that the technology uses to generate the requested response

4. Discussion and Challenges

- **2. Bibliographic styles and AI**
- How bibliographic styles organize and normalize the expressions produced by AI
  - treat the access point of the author of the AI
  - ensuring that works are quoted and free of plagiarism

4. Discussion and Challenges

- **APA**
- four attributes for recording AI:
  - author and/or creator
  - date on which the AI model and version was recovered
  - title of content
  - URL of model used

- Autor: OpenAI
- Fecha: Año de la versión utilizada entre paréntesis
- Título: *ChatGPT*, en cursiva, con el número de versión entre paréntesis
- Además, es importante **incluir una descripción** como "Modelo de lenguaje de gran tamaño" entre corchetes para proporcionar una comprensión clara al lector.
- Fuente: URL directa al modelo. La URL de ChatGPT es https://chat.openai.com/chat

Image 1. Elements to cite and reference ChatGPT (Marquina, 2023)

Citation:

OpenAI. (2021, July 15). GPT-3: Language models are few-shot learners. "What is academic writing?" Retrieved from https://openai.com/chat/

Image 2. ChatGPT APA reference. (Ingram, 2024)

Nombre del autor (año, mes día). Título de la publicación o descripción [Mensaje de chat]. Recupe-rado de [URL]

OpenAI. (2023). *ChatGPT* (Mar 14 version) [Large language model]. https://chat.openai.com/chat

Image 3. ChatGPT APA reference. (McAdoo, 2023)

- **Chicago**
- five attributes for recording AI:
  - author and/or institution responsible
  - page title
  - date it was published and/or last updated
  - access date
  - date on which the content was accessed

Citation:

For a citation of an article text generated by ChatGPT:

Text generated by ChatGPT, March 23, 2023, OpenAI, https://chat.openai.com/chat. ChatGPT

For a citation of a chat conversation with ChatGPT:

ChatGPT. "Conversation with a Language Model." Conversation with the author, 2 May 2023.

For a citation that includes a prompt with ChatGPT:

While you are using the prompt for content, "Text generated by ChatGPT," the date you prompted it, "OpenAI," and the URL

ChatGPT, response to "Why academic writing is important," May 02, 2023, https://chat.openai.com/chat.

Image 4. ChatGPT citations and references with Chicago style. (Ingram, 2024)

- **Harvard**
- four attributes for recording AI:
  - name of author
  - year of publication
  - title of article
  - date of access to content

Example:

If you are adding several citations in your Harvard-style paper, it will look like this:

Citation:

If the article has no author, you will cite the organization for that AI tool or software that write the article for you, i.e. "Open.AI," for if you generate a blog/article with chatGPT:

(OpenAI, 2023)

In-text citation: (ChatGPT, 2023)

This citation format is used when citing a specific point or piece of information within the text of your paper. In this example, "ChatGPT" is the author or organization responsible for the chatbot, and "2023" is the year the conversation occurred.

While adding a reference citation:

ChatGPT. (2023) "How to Cite ChatGPT in Different Writing Styles." Chat conversation

Image 5. Harvard-style ChatGPT citations and references. (Ingram, 2024)

Conclusions

- AI is an information action parallel to library actions

- link between copyright and AI is an issue that must be addressed in accordance with the dynamics in which the development of AI moves

- Foster legislating the copyright of AI at a global and regional level: do not infringe rights, and/or plagiarism actions

- AI and open science crystallize the universal human right

- Global debates about legislating the expressions of AI linked of the set of norms and standards open science movements

- Latin America region legal actions regarding AI is under development

- Consensus between academic literature, legal-legal regulations, and bibliographic styles