World Intellectual Property Organization (WIPO)

Examining the Impact of Artificial Intelligence on Intellectual Property Rights

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I. INTRODUCTION

The World Intellectual Property Organization (WIPO) is a specialized agency of the UN located in Geneva, Switzerland, in charge of safeguarding the public interest. "It is dedicated to developing a balanced and accessible international intellectual property (IP) system, which rewards creativity, stimulates innovation, and contributes to economic development" (WIPO, n.d.). The beginnings of WIPO go back to a convention between Paris for the Protection of Industrial Property and Berne for the Protection of Literary and Artistic Works, where an "International Bureau" was established; this later on was replaced by WIPO when both cities got united. (*Convention Establishing the World Intellectual Property Organization*, n.d.). However, WIPO was established in 1967, but it wasn't until 1974 that the organization officially became part of the United Nations system.

WIPO, together with governments, intergovernmental organizations, society, and industrial groups, addresses intellectual property issues that may arise. To prevent the risks of promoting false information, new rules are created to keep up with the innovations the world and society encounter. Rules are constantly improved to ensure that the IP system keeps pace with its purpose by encouraging innovation and creativity (*World Intellectual Property Organization*, 2021). To attain the objectives of the organization, WIPO undertakes different activities such as: setting norms and standards that protect intellectual property (IP) through international treaties made; assisting States with legal and technical assistance related to IP; classification of documents related to patents, trademarks, and industrial design; and finally, registering services related to international applications. (*Summary of the Convention Establishing the World Intellectual Property Organization*, n.d.).

With innovation and technology constantly evolving and making things easier for humans, it was necessary to establish rules and policies that sustain intellectual property rights; WIPO helps the resolution of disputes over the use of Internet domain names. To accomplish this, WIPO provides more than 20 intellectual property treaties, supervision of intellectual unions regarding agreements on trademarks and patents, and the protection of artistic and literary works. (*World Intellectual Property Organization*, 2024).

Artificial Intelligence is a technology programmed to give results that simulate human intelligence, implying users give AI outlets a task and the computer enables problem-solving capabilities. The results this technology brings are human mind type, causing humans to limit their knowledge and abilities by fully relying on the information that this technology provides them. The time frame is from 2020 to the present time. The main focus is identifying how

artificial intelligence has become part of an individual's life and the effect this control has generated. The use of artificial intelligence has made users question the morals and ethics that are broken due to the control these networks have, making others question if there should be boundaries and rules set for these technological outlets.

As in every situation, there are positive and negative aspects. Artificial intelligence has become one of the greatest advancements in history, and most importantly, it is the starting point of the next technological advancements. Artificial intelligence shows a great deal of advantage towards individuals; with AI, there is a limitation towards human error, meaning that the risk of making mistakes due to human actions is eliminated. As well as the 24/7 availability, it is easy to access and reachable for individuals, completing tasks more efficiently.

On the other hand, artificial intelligence has demonstrated negative results towards society, one of them being degradation. Artificial intelligence does demonstrate a low margin of error; these are program-based technologies, meaning that as time goes by, there is a clear degradation in its efficiency. The world is constantly changing and evolving; new advancements and new technologies are created daily, meaning that the information presented through these technological outlets is limited to certain periods since it is not constantly updated. Artificial intelligence has also presented a lack of emotion and creativity, meaning that although these programs are made to have human problem-solving capabilities, their data gives racially biased results, increasing the chances of unequal results. The reason advancements in artificial intelligence have shown the reduction of jobs for human beings is how it has replaced human tasks with technological equipment.

The use of artificial intelligence outlets has increased immensely over the last few years. Artificial intelligence has been part of online users' navigation for an extended period; however, it has been present and taken into consideration more often nowadays since its access has widened to the public. Nowadays, users can easily command these programs into generating anything they desire. The world is constantly evolving, and individuals are evolving with it; the internet has become part of their lives, and it represents the impact and control that artificial intelligence has acquired over the years.

II.   *HISTORY OF THE PROBLEM*

In the 20th century, science fiction portrayed artificially intelligent robots as the first representation of AI in the world. It was not until the 1950s that scientists, mathematicians, and philosophers became familiar, thanks to culture, with the concept of artificial intelligence.

The base questions and knowledge that prompted scientists and other experts to learn about AI were related to building an artificial brain that was able to solve problems and make decisions. (Anyoha, 2017).

Robots: "Artificial People"

In the early 1900s, Czech playwright Karel Čapek released a science fiction movie where he first presented the idea of "artificial people," whom he called robots. (*What Is the History of Artificial Intelligence (AI)?* n.d.). The idea of these robots that could process a lot of information and solve problems arose when digital computers were invented; society called them "electronic brains," so they wanted to create a robot with this computer brain. The creation of robots started with *Unimate*, a robot installed in 1961 in a factory in charge of doing risky activities with hot metals. After this creation, many other programmed robots were built and created with the advances that computers were making. These robots worked with a pre-programmed set of instructions that made them perform the tasks they were supposed to. Robots were a sign that researchers were accomplishing what they wanted and had made significant progress regarding artificial intelligence when creating autonomous machines.

Alan Turing

Alan Turing was a mathematician and what can be called the father of computer science. Turing started with constructing the first true computers and later published his work "Computing Machinery and Intelligence" in 1950. In summary, his paper's main objective was to introduce the capabilities computers have to learn any program and build their understanding, just as a human brain would function. (Whitehead, n.d.). Here was when the term "artificial intelligence" became popular and was first introduced to society through the Turing Test.

The Turing Test was created later in the 1950s when Alan Turing had the idea of analyzing and examining the machine's capabilities related to language processing. This test questions the ability machines have to interact with humans and think as humans; this was to understand machines's facilities to adapt and "imitate" human brains (Marcus, 2024). With this test, scientists and technologists can create better and more sophisticated systems that may pass the test, demonstrating the autonomous intelligence the system has. "More than 70 years later, the Turing test still serves these purposes and can provide us with a starting point for measuring AI's human likeness, evaluating its capabilities, and facilitating AI research." (Marcus, 2024).

The idea of creating machines that were similar to human brains was getting closer; when computers started to get sophisticated and developed more complicated and extensive programs, they could become a danger to replacing actual human brains. Alan Turing was the creator of the AI basis program because, through his research, he wanted to explore more of the computer and technological world.

Dartmouth conference

The "Dartmouth proposal" was created by four academics who specialized in themes of fields to summarize the research of the period. The first statement from this proposal says: "[...] The study is to proceed on the basis of the conjecture that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it." (AI History: The Dartmouth Conference, n.d.). After this proposal, a call for scientists was made to gather the next summer and work on the problem stated in the proposal.

"During the summer of 1956, Dartmouth mathematics professor John McCarthy invited a small group of researchers from various disciplines to participate in a summer-long workshop focused on investigating the possibility of "thinking machines." (*The History of AI: A Timeline of Artificial Intelligence*, 2024). At this conference, many scientists honored the accomplishments artificial intelligence had and the future of machines when simulating activities to facilitate learning for humans. It was during this conference that the terms "artificial" and "intelligence" were coined to describe the findings and research scientists had performed regarding machines.

The conference findings were brainstormed, and an open debate was held regarding the capabilities of machines to perform like humans; this idea was built on the group's decision to demonstrate that machines could simulate human intelligence in every aspect of learning. With this conference, the comparison between humans and machines was present and challenged through the different ideologies that exist: one defending human traits and the other denominating the human mind as something materialistic. (*AI History: The Dartmouth Conference*, n.d.). Though the conference didn't go as planned because of the lack of advances in computer science and machine capabilities, later on, the technological advances would facilitate this research. What was important from this conference was that, though it didn't go as planned, the scientists met and shared their perspectives, which made them later keep looking for answers, making the conference the main field of research for AI.

American Association of Artificial Intelligence founded

The American Association of Artificial Intelligence, also known as the AAA, was founded in the 1980s, although there was a greater process before the organization was completely formed. In a Dartmouth college conference that took place in the 1950s, the topic of artificial intelligence was starting to arise in conversations of universities and institutions like "MIT, Stanford, and Carnegie Mellon" (Association for the Advancement of Artificial Intelligence, 2024). The presentation of artificial intelligence in society was seen as a space of opportunity where this tool could make the sharing of information, ideas, data, and new discoveries much greater, The presentation of artificial intelligence was the perfect opportunity to share information for networks to share data in a fast and efficient way. After the analysis of the purpose, elements, and structure of AI, there was an International Joint Conference on AI, which took place firstly in 1977 and then in 1979. The purpose of these meetings was for these institutions to generate an association in which artificial intelligence potential could be invested; as mentioned, the formation of the AAA was finalized in 1980.

Before going more in-depth into the elements of the American Association of Artificial Intelligence, there has to be an understanding of the purpose of this association: the AAA is "dedicated to advancing the scientific understanding of the mechanisms underlying thought and intelligent behavior and their embodiment in machines." (Association for the Advancement of Artificial Intelligence, 2024) The association holds events and meetings like workshops, the establishment of writing (journalism), and conferences, which are held on an annual basis. The main goals of the American Association of Artificial Intelligence are to promote research while maintaining responsible use towards investigation, for users to understand the purpose of artificial intelligence, and to guide those who are in training of AI towards the importance and the potential of artificial intelligence. Artificial intelligence is a great tool for research because it generates a one-to-one connection between data networks and online users. The AAAI helps users improve their research and understand the importance of this tool and how to manage it accurately. Activities other than conferences are also generating magazines, advocating members with educational programs, and awarding grants and scholarships for those who are interested in the promotion of research and responsible use of artificial intelligence.

Early IA 1980s-1990s

During the years 1980s and 1990s, there was winter, which meant that all of the movements and new investigations of artificial intelligence were quiet, from the beginning of the 1970s

until the beginning of 1990, there was a reduction in the investigation of artificial intelligence and the potential that this tool had. This period of time was known as the AI Winter, which gave this name because there were expectations of how technology would impulse society towards greater and bigger technologies, but they quickly became shortcomings and were reduced for two decades.

After the 1990s, there was more funding for this topic, and the idea of artificial intelligence gained greater power after this cold period. At the beginning of the 1990s, Ernest Dickmans invented the first driverless car; it was a Mercedes van that had a computer system that could read the environment and exteriors due to the sensors that were connected to the vehicle. The idea of the car was promising and was found to be somewhat intelligent, but the vehicle could not operate on real roads because the car was only manageable without any other vehicles in the environment or passengers on it.

AI growth: 2000 - 2019

The years from 2000 to 2019 were the decades of evolution. This period reflected how the world is constantly changing and evolving, and during this time there was an increase, most importantly in the technological aspect of the world. In the past, innovation was mostly seen in society and their way of seeing life, but during these years, the evolution of technology was so impactful towards individuals that there was a certain dependence or role of importance that artificial intelligence took on society's life. These were the years of evolution in the growth of technology and society.

In the 2000s, the first social robot that had the ability to identify and simulate human emotions was created by the MIT program. The robot could mimic emotions and feelings, read, and help individuals with the tasks. This was the first robot that could go through human emotions due to its programming, which was structured with sensors and microphones that helped the development of kismet.

NASA had agreed to visit another planet, in this case Mars. They wanted to have a more in-depth look at the planet and research more upon its elements and structure, which led to a very important invention that was paired up with artificial intelligence. In 2004, NASA sent the first two Rovers, Spirit and Opportunity, to Mars. These robots can travel around the planet and were built for discoveries of elements on the planet that were built up and equipped with artificial intelligence.

As years went by, artificial intelligence became part of technology and the creation of new inventions. This was the case with Apple and Amazon, who wanted to create command

and control systems that would simulate human emotions and complete tasks that individuals were assigned, in this case Siri and Alexa. In 2011, Apple showed the first virtual assistant, and three years later, Amazon demonstrated Alexa. Both of these companies generated an assistant that was programmed with the sole purpose of answering questions users developed.

In the years 2016 and 2017, there was a robotic invention that marked a clear advancement in technology. The team that generated Kismet, the company, algebraic robots, generated their most renowned invention, a human-like robot named Sophia. This was the first time that society was presented with human-like technology; the robot was able to generate conversations, interact with the environment, generate human-like emotions, and was capable of understanding jokes and having facial expressions. This advanced humanoid robot was generated through innovative artificial intelligence and had constant interaction with individuals. This robot had so much impact because it could have one-on-one conversations, and although it was technology. The impact of this robot is greater than expected; it can have one-on-one conversations, and although this is technology, it can maintain a human-like feel, meaning that ideas and answers are based on common sense.

AI: 2020 - present

Artificial intelligence has generated a great impact in society; nowadays we see it as an accessible tool. AI can create images, videos, and text with just a few commands and terms; artificially intelligent networks can generate these pieces with text prompts. In the past, artificial intelligence was seen in programmed robots and detailed technology; as technology started to innovate, it became part of technological devices, as was presented in products like Apple (Siri), Amazon (Alexa), and algebraic robots (Sophia)

In 2022, Chat GPT was released for all online users. Being the first writer's block conducted by research, the artificial intelligence tool can generate problems and ideas that are human-like, meaning that all of the answers were based upon an intelligent program that had as a sole purpose to respond and engage with users. Nowadays, artificial intelligence has become part of our lives, and little by little, we will see how it will increase its presence within technological sources and tools.

Artificial intelligence helps people in every area of their lives, facilitating and improving different aspects. Still, it is important to protect human values and not depend completely on technology. The main strategy AI implements is recruiting and combining information from different sources and sharing an overview of the information found: "With massive improvements in storage systems, processing speeds, and analytic techniques, they are capable of tremendous sophistication in analysis and decision-making." (Wheeler, 2018). Artificial intelligence is altering society, governments, and economic situations since decision-making and knowledge are given by algorithms and software improvements.

Though most people are very familiar with artificial intelligence, some statistics show that in 2017, senior business leaders were asked about AI, and only 17 percent of the 1,500 people interviewed said they were familiar with the concept. (Wheeler, 2018). This technology has been a significant improvement in different sectors such as finance, national security, health care, criminal justice, transportation, and smart cities." A project undertaken by PriceWaterhouseCoopers estimated that "artificial intelligence technologies could increase global GDP by \$15.7 trillion, a full 14%, by 2030." (Wheeler, 2018).

Artificial intelligence has been applied to different modern businesses as part of accomplishing the main goals, but the fact of implementing this technology into traditional organizations can take employees' jobs away. There have been different tests that demonstrate AI systems perform better than humans and have more developed capabilities "including handwriting recognition, speech recognition, image recognition, reading comprehension, language understanding, and predictive reasoning." (Roser, n.d.).

The following chart demonstrates the test and evolution of artificial intelligence. Human performance is set to a baseline at zero, and all artificial intelligence begins at -100. When AI achieves better performance than humans, it crosses the baseline of humans; it wasn't until the 2010s that the technology started to perform better than humans and overtake human capabilities. This test provided a perfect example of the advances in technology that exist and how this can revolutionize the world, specifically industries and important processes that impact the modern economy. "What makes AI such a game-changing technology? The fact that it can perform similar tasks as human beings, but faster and with fewer mistakes." (*Why Is Artificial Intelligence (AI) So Important?*, 2021).

Test scores of AI systems on various capabilities relative to human performance

Within each domain, the initial performance of the AI is set to -100. Human performance is used as a baseline, set to zero. When the AI's performance crosses the zero line, it scored more points than humans.
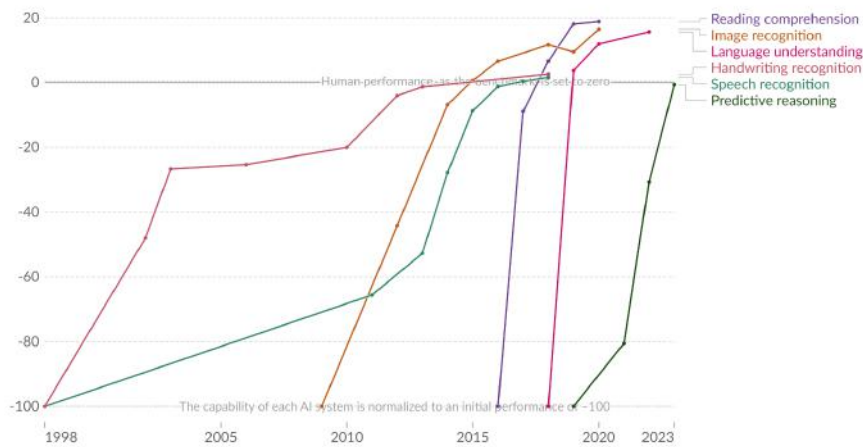
Data source: Kiela et al. (2023)
OurWorldInData.org/artificial-intelligence | CC BY
Note: For each capability, the first year always shows a baseline of -100, even if better performance was recorded later that year.

Artificial intelligence is an online tool that, for years, has been used to simulate human activities and problem-solving capabilities. The advancements of AI have made positive elements arise in conversation; it is easy, accessible, less time-consuming, and impulses communication lines to the fullest capacity with users. Nowadays, artificial intelligence has demonstrated its impact on online activity, and technological production/creation of inventions has transformed the perception of technological advancements worldwide. Artificial intelligence has brought various positive aspects into the world of technology, but in 2024 the negative effects of artificial intelligence will be more present. It has affected the integrity of the internet due to its capacity for format transformation. Artificial intelligence has the capacity to generate visual and audio content, which increases the chances of generating fake news and content, making users question their ability to trust internet media and outlets with information.

"The Republican National Committee has already utilized AI-generated videos in its campaigns, highlighting the technology's role in modern political strategy." (Aspen Institute UK, 2024). The use of artificial intelligence has already been present in political campaigns; the use of artificial intelligence has pushed individuals to use major technological developments in the production of content and the structure of public perspective in this case politics. Artificial intelligence has extended its ability from technological advancements to affecting jobs; it is presumed that about "70% of major companies" (Talmage, 2024) will shift from human-made jobs to AI-revolutionized employment. The evolution of artificial

intelligence will not only innovate technology but the world completely, and individuals with it, the economies of countries, and the structure of employment will transform completely. "This will mainly come from labor substitution by automation and increased innovation in products and services." (Talmage, 2024). Artificial intelligence represents a new starting point for the world; there will be an enhancement of new technology, most importantly with productivity. AI has as its main role to complete human-like productions in a timelapse of seconds.

The advancements that will be presented are the ones that have improved access to education; AI nowadays is easy to access by any online user, which will generate an expansion towards data releases and information access. Artificial intelligence will not only influence those who want to create pieces of information like text or images, but it will also represent an improvement in healthcare and solve complex problems that are presented in our world, which will be easy to solve and generate a more convenient and easy lifestyle for individuals. Artificial intelligence is the representation of technological innovations in our world. As time goes by, individuals will see the impact that technology has in our lives and how generations will grow with these new advancements and formats of technology and lifestyle.

IV.   *UN ACTIONS*

"The Secretary-General further noted that "while many countries have called for different measures and initiatives around the governance of AI, this requires a universal approach." (*Security Council Debates AI's Impacts on Peace and Sust*ainable Development, 2023). During this debate, the main objective was to find a common solution and partner as an organization to establish peace and justice regarding the obstacles AI may present. The Security Council has made it clear that AI is a threat to countries if it isn't used correctly; as it was mentioned, it can "turbocharge global development" and realize human rights, particularly in health and education, while also acknowledging "evidence that AI can amplify bias, reinforce discrimination, and enable new levels of authoritarian surveillance" (Security Council Debates AI's Impacts on Peace, Sustainable Development, 2023).

Our Common Agenda (OCA) is built with different recommendations regarding AI governance that shape the policy "A New Agenda for Peace." This includes things such as developing national strategies that are responsible for the use of AI, together with Member States' obligations to respect international and human rights law; engaging in a process to develop norms, rules, and principles related to military applications of AI; and agreeing on a

global framework to strengthen mechanisms for the use of technology for counter-terrorism purposes. (*Security Council Debates AI's Impacts on Peace and Sustainable Development*, 2023).

Principles

Principles for the ethical use of AI have been developed in the United Nations, and these principles contain:

- AI systems are used in ways that cause no harm, including in social, cultural, economic, natural, and political environments. Should operate according to UN purposes (respecting, protecting, and promoting human rights and freedom).
- Security risks are addressed and mitigated through AI systems. To prevent and limit harm to humans and the environment.
- Promote fairness and equal distribution, preventing discrimination and bias in situations related to international law. AI should not lead to individuals being impaired in their human rights and freedom.
- AI use should promote sustainability, and this technology will continuously be assessed to prevent impacts on future generations.
- Human rights and privacy should be respected and protected. Mechanisms should be established together with the United Nations Personal Data Protection and Privacy Principles.
- AI systems do not overrule the freedom and autonomy of human beings. Incorporate human-centric practices, leaving an opportunity for human decision-making. Individuals should have the ability to decide when to use AI or whether to use it or not. "As a rule, life and death decisions or other decisions affecting fundamental human rights of individuals must not be ceded to AI systems, as these decisions require human intervention." (*Principles for the Ethical Use of Artificial Intelligence in the United Nations System*, 2022).
- Should ensure transparency and an explanation of all AI systems. Access to the reasons for any decision and the logic the technology's algorithm took into account.
- "United Nations system organizations should take an inclusive, interdisciplinary, and participatory approach that promotes gender equality." (*Principles for the Ethical Use of Artificial Intelligence in the United Nations System*, 2022).

Artificial intelligence has become one of the most important internet phenomenons, AI has been part of technological advancements for years but implemented in inventions that were not accessible to all individuals. Nowadays, artificial intelligence is reachable and accessible for any online user who is connected to the internet. The impact of artificial intelligence is clear, but such power and reach with users can turn into a dangerous point for online AI websites, most importantly on intellectual property rights. The United Nations has worked with artificial intelligence for several projects, one of them being AI for Good, which "is organized in partnership with 40 UN sister agencies who actively participate and shape our programming by sharing valuable expertise and collaborating on joint sessions" (Guterres, 2022).

The United Nations knows that artificial intelligence has brought a lot of benefits to our world and has improved various aspects of technological advancements, although it is also aware of the consequences and the major changes that this movement has brought, the risks, uncertainties, and the capacity to widespread technology internationally. "AI technologies have now reached such a level that they are capable of producing outputs with only a limited involvement of a human. Such outputs, if they were produced by a human inventor, would be capable of attracting patent protection." (Hayleigh, 2020)

The United Nations Secretary General's response to this global issue is "convening a multi-stakeholder, high-level advisory body on AI to undertake analysis and advance recommendations for the international governance of AI" (United Nations, 2024). The United Nations is aware of this problem, and they have come up with three solutions that are in development and are still being worked on, one of them being calling for interdisciplinary expertise. They want to bring together experts who have great knowledge of the topic of how artificial intelligence can be governed for good if it is aligned with international interoperable governance and human rights. The second solution that the United Nations offers is a multi-stakeholder network approach, which is mainly about an engagement consultation with a wide range of sectors, most importantly with international organizations who are emerging initiatives upon this topic. The last solution that the United Nations offers is supporting the body. " Through their support, contributors will strengthen stakeholder cooperation on governing AI in the face of pressing technical breakthroughs and thereby contribute to better-governed AI globally (United Nations, 2024).

V. POSSIBLE SOLUTIONS

Establishing regulations and limitations for online users, creating rules to maintain a safe space online, and limiting error margins for users on AI-based websites. The main risk of artificial intelligence is the wide percentage of misinformation made through incorrect commands (search questions) and limited information requirements. This is why the following proposed solutions may help with artificial intelligence adaptation while protecting intellectual property rights:

1) Artificial Intelligence Regulation
    ○ Implement artificial intelligence regulation on online users' privacy, limiting AI websites' access to unnecessary personal information for searches and investigation purposes. The most common online privacy regulation is GDPR, which is a General Data Protection Regulation system that limits websites to access personal data.
    ○ Establishing ethical regulation on artificial intelligence networks, for example, search logs, chat GPT, and internet outlets. Assuring information extraction from these networks maintains an ethical posture for individuals, meaning regulation on harmful data release and sensitivity towards users (determining the impact on human rights).
    ○ "The risk of losing intellectual property comes from the fact that AI uses all the data that falls into it." (Medvednikov, 2022) The easy access of artificial intelligence from online users simplifies the copyright and intellectual property rights to be broken due to the lack of regulation of referencing and data acquisition.

2) Security standards
    ○ Artificial intelligence in online websites has demonstrated a vulnerability in users' integrity, most importantly in safety. Access to these networks should regulate cybersecurity, which diminishes the probability of cyberattacks on users of the internet.
    ○ For security standards to meet internet users' needs, a clear solution would be the development of an IP address strategy, which means there could be an implementation of streamlining, which would lead to the identification of use and the generation of a history/profile. The use of algorithms has presented a clear protection for online users' privacy, meaning that there are fewer invasive

attacks through copyright and contact information. IP addresses take into consideration existing laws of social media matters and reduce the risk of personal outages.

3) Intellectual Property Assessments

○ Conduct audits to inform about property rights and examine the risks that society may suffer when they use artificial intelligence without understanding the freedom and rights they have regarding their information. (Godefroy et al., 2024).

○ Companies should assist the personnel to ensure the protection of information regarding aspects from companies. With this, avoid misinformation and the spread of confidential information that may be dangerous for economic development.

○ Use qualified professionals for the development of these conferences—people who fully understand the topic and are aware of the current information that is occurring regarding AI.

4) Copyright protection

○ Protect and use AI as a tool for improvement instead of seeing it as a threat to brands and creativity. It is fundamental to protect brand rights and originality by establishing something that protects them around the world. (Godefroy et al., 2024).

○ The development of policies to help and ensure the IP protection of companies, artists, and daily situations where humans can be at risk. By creating technologies or programs that can determine and identify which information or artistic works are intellectual property and what is public property information.

○ "Human authorship should be given precedence as the primary criterion for being recognized as the "owner" of intellectual property. In other words, AI-generated content without significant human creative contributions would not be eligible for copyright protection." (Medvednikov, n.d.)

1. United States of America

Found as the most prolific country in AI research, it has contributed to the creation of different and most used AI programs, including GPT-4, DALL E-3, Gemini, Llama 2, and Claude 3; some of them have achieved almost 100 million users, increasing weekly. (Keary et al., 2024). Though the US government has made use of artificial intelligence for different purposes, including services and operations, it is the most advanced country in impulsing and also investing the most economically in these technologies, making it the owner of approximately 40% of AI companies. (Magallanes, 2024). The United States of America is leaving a trace and teaching other countries regarding the use of technologies and how to manage them daily by destined these technologies for fomenting and impulsing the economy and social welfare of all its citizens. With a lot of investments, developments, and investigations, they are visualizing the future impacts AI would have in their country. This is why they created policies and educated their citizens for a more developed and technological life.

2. People's Republic of China

The People's Republic of China is the second-most developed country in terms of AI research and investors. "Companies like Tencent, Huawei, and Baidu lead the country's AI innovation with new releases, including Tencent's Hunyuan's large language model (LLM), a Chinese alternative to ChatGPT, Huawei's Pangu, an LLM with 1.085 trillion parameters, and Baidu's Ernie AI model" (Keary et al., 2024). China has established different policies and laws that make the developers of these AI systems responsible for the information and output that their programs share with citizens. Also, developers should follow intellectual property rights since any act that infringes on this knowledge without giving credit to the actual authors would cause their data and programs to be illegal; with this, China guarantees all AI programs to be true and accurate. "These proposed rules build on existing legislation relating to deep fakes, recommendation algorithms, and data security, giving China a leg up over other countries drafting new laws from scratch." (Klimentov, 2023). With these laws, China is promising improvements in the technological field and achieving world-level changes.

3. United Kingdom of Great Britain and Northern Ireland

The United Kingdom of Great Britain and Northern Ireland has been one of the main contributors to the innovation and transformative movement of artificial intelligence. The UK has been one of the countries that has boosted the artificial intelligence movement, developing "DeepMind, behind AlphaGo and AlphaFold, and Darktrace" (Keary et al., 2024). The United Kingdom of Great Britain and Northern Ireland is one of the three largest countries that have invested in the AI Market; the other two have been the United States of America and China, "sitting on a current valuation of $21 billion, which it estimates will reach $1 trillion by 2035. " The government of the UK has been spending part of its funds on the research and development of artificial intelligence, rising from the prime minister's movement to increase taxpayers on supercomputers and locate a "partnership with Hewlett Packard Enterprise and Bristol University." (Keary et al., 2024). The United Kingdom of Great Britain and Northern Ireland have demonstrated a great interest in the evolution of technology and constant innovation of artificial intelligence for the benefit of humankind and have acknowledged the power of AI in preserving global safeguards and human rights.

4. State of Israel

The state of Israel has established itself as a country that has a great interest in artificial intelligence development and the achievement of the four highest countries in the world in AI investments, "achieving $11 billion in private investment between 2013-2022" (Keary et al., 2024). The state of Israel presented a great interest in the advancements but understands the consequences of the use of AI on individuals. In 2022, the prime minister of Israel generated a draft policy of AI regulation, which was published to the general public. Overall, it demonstrated a great interest in preserving human dignity and privacy "use of AI should respect "the rule of law, fundamental rights and public interests and, in particular, [maintain] human dignity and privacy." " (Klimentov, 2023) The impact of artificial intelligence has been presented in the state of Israel in both positive and negative ways, but overall, the main focus of the country is to preserve artificial intelligence as a research tool that is used to its maximum potential for human purposes and needs but focuses on preserving the dignity, ethics, and privacy of human beings.

5. Dominion of Canada

"Canada has quietly emerged as a top-five player in the international AI research scene. Some of the top AI companies active in the country include enterprise LLM provider Cohere, generative AI platform Scale AI, and AI search provider Coveo." (Keary et al., 2024). Canada has been prepared for the growth of AI technologies since 2021, when a consultation regarding modern copyright by artificial intelligence was clarified and supported by specifying the need to state authorship and ownership for the different works AI created. This perspective was evaluated by the government of Canada, and after reviewing it, the copyright framework in Canada could change. (*Canadian IP Voices: Understanding Artificial Intelligence*, 2024).

6. Japan

7. Republic of India

8. Federal Republic of Germany

9. Russian Federation

10. French Republic

11. Republic of Singapore

12. Republic of South Africa

13. Kingdom of Saudi Arabia

14. Italian Republic

15. United Arab Emirates

16. Swiss Confederation

17. Kingdom of Sweden

18. Kingdom of Spain

19. Portuguese Republic

20. Federative Republic of Brazil

21. United Mexican States

VII.   BIBLIOGRAPHY

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