

<b>Forum:</b>	Special Conference on the Paradox of Progress (SPECON)
<b>Issue:</b>	Regulating the Use of Artificial Intelligence in the Context of Creative Industries
<b>Student Officer:</b>	Virginia Genitsaropoulou
<b>Position:</b>	Deputy President

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## PERSONAL INTRODUCTION

Dear delegates of SPECON,

My name is Virginia Genitsaropoulou, I am 16 years old and I am currently attending the 11<sup>th</sup> grade in Deutsche Schule Athen (German School of Athens). In this year's Platon School MUN, I will have the utmost honor of serving as a deputy president in the Special Conference on the Paradox of Progress. Regarding my MUN experience, I first started with MUN when I was attending the 8<sup>th</sup> grade and since then I have participated in 8 conferences where I thoroughly enjoyed the experience and developed my MUN skills. PSMUN will be my 9<sup>th</sup> conference and second time chairing.

In this committee you will discuss topics that are closely related with this year's PSMUN's Conference topic, "The Paradox of Progress". With the help of this study guide, you will specifically be familiarized with the fourth agenda topic, namely "Regulating the use of Artificial Intelligence in the Context of Creative Industries".

It would benefit you if you also conducted your own research on the topic and studied your country's policy. If you have any questions regarding the study guide, the topic as a whole or any procedural questions, do not hesitate to contact me at [virginiagenitsaropoulou@gmail.com](mailto:virginiagenitsaropoulou@gmail.com)

I am looking forward to getting to know you all and to have a fruitful debate!

Yours sincerely,

Virginia

## INTRODUCTION

Numerous industries have been influenced by the rise of Artificial Intelligence (AI), and the creative industry is no exception. As the creative industries are so prevalent in our everyday lives, the application of AI in those industries could potentially change what our reality looks like. For example, one could come across unique artwork or music, which are, however, not created by humans. Or hear their voice singing a song, which they have never actually sang.

Artificial Intelligence is a modern, practical interpretation of human thought processes. It can be viewed as a general term for all types of computer programs that mainly analyze user input and provide a result based on that interpretation, a process that is sometimes compared to the process of human thinking. Although creativity has always been seen as an exclusively human activity, AI's development as a creative tool has opened up new opportunities and created discussions regarding the connection point between technology and human imagination.

As AI can increase productivity, and allow access to creative tools, its use in the creative industries is gaining a lot of attention. AI saves time for designers and artists, allowing them to concentrate on more difficult aspects of their work. The growing popularity of AI in the creative sectors, however, poses multiple challenges. Some could claim content created by AI lacks the complexity, originality and is unable to evoke emotions that characterize creations by humans. The ownership, crediting, and authenticity of works produced by AI also pose ethical concerns. Additionally, there are socioeconomic consequences that should be carefully examined and addressed when AI technology has the potential to replace human artists and creative professionals.

The application of artificial intelligence in the creative sectors has created new opportunities for efficiency and innovation. However, continual conversations about the right application of these technologies are required due to the ethical concerns regarding the impact of AI on creative expression. There is no doubt that AI will develop even more in the future, possibly leading to more debates and questions about its use in these industries. Therefore, it is important to find the right balance between human inventiveness and AI-driven support for the future of creativity in the digital age to have positive outcomes.

## DEFINITION OF KEY TERMS

### Artificial Intelligence (AI)

The use of computer programs that have some of the qualities of the human mind, such as the ability to understand language, recognize pictures, and learn from experience.<sup>1</sup>

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<sup>1</sup> "Artificial Intelligence." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/artificial-intelligence>

## Creative Industries

An industry that is based on work in which original ideas are important, such as work in the arts or the media, in designing computer software, etc.<sup>2</sup>

## Ethical Guidelines

Groups and organizations use ethical guidelines or codes to specify what behavior is morally appropriate or not. Members of a group utilize the guidelines as a set of rules to carry out their responsibilities.<sup>3</sup>

## Regulations

An official rule or the act of controlling something.<sup>4</sup>

## Guidelines

Information intended to advise people on how something should be done or what something should be.<sup>5</sup>

## Intellectual Property

Someone's idea, invention, creation, etc., that can be protected by law from being copied by someone else.<sup>6</sup>

## Feedback Loop

A system for improving a product, process, etc. by collecting and reacting to users' comments.<sup>7</sup>

## Generative Adversarial Networks (GANs)

A machine learning (ML) model called a generative adversarial network (GAN) pits two neural networks against one another in a race to make predictions that are more accurate by utilizing deep learning techniques.<sup>8</sup>

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<sup>2</sup> "Creative Industry." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/creative-industry>

<sup>3</sup> "Ethical Guidelines." *AlleyDog.com - Psychology Student's Best Friend*, [www.alleydog.com/glossary/definition.php?term=Ethical+Guidelines](http://www.alleydog.com/glossary/definition.php?term=Ethical+Guidelines)

<sup>4</sup> "Regulation." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/regulation?q=regulations>

<sup>5</sup> "Guideline." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/guideline>

<sup>6</sup> "Intellectual Property." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/intellectual-property>

<sup>7</sup> "Feedback Loop." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/feedback-loop>

<sup>8</sup> "What is a Generative Adversarial Network (GAN)? | Definition from TechTarget." *Enterprise AI*, 9 Mar. 2023, [www.techtarget.com/searchenterpriseai/definition/generative-adversarial-network-GAN#:~:text=A%20generative%20adversarial%20network%20\(GAN\)%20is%20a%2](http://www.techtarget.com/searchenterpriseai/definition/generative-adversarial-network-GAN#:~:text=A%20generative%20adversarial%20network%20(GAN)%20is%20a%2).

## Data

Information, specifically facts or numbers, collected to be examined and considered and used to help decision-making, or information in an electronic form that can be stored and used by a computer.<sup>9</sup>

## Machine learning

Machine learning is a branch of AI and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.<sup>10</sup>

## Supervised learning

Supervised learning is a subcategory of machine learning and artificial intelligence. It is defined by its use of labeled datasets to train algorithms that to classify data or predict outcomes accurately.<sup>11</sup>

## Unsupervised learning

Unsupervised learning uses machine learning algorithms to analyze and cluster unlabeled datasets. These algorithms discover hidden patterns or data groupings without the need for human intervention. Its ability to discover similarities and differences in information make it the ideal solution for exploratory data analysis, cross-selling strategies, customer segmentation, and image recognition.<sup>12</sup>

## Reinforcement learning

Reinforcement learning is a subset of machine learning that allows an AI-driven system (sometimes referred to as an agent) to learn through trial and error using feedback from its actions.<sup>13</sup>

## Deep learning

Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers. These neural networks attempt to simulate the behavior of the human brain—albeit far from matching its ability—allowing it to “learn” from large amounts of data.<sup>14</sup>

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<sup>9</sup> "Data." *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, <https://dictionary.cambridge.org/dictionary/english/data>

<sup>10</sup> "What is Machine Learning?" *IBM - United States*, <https://www.ibm.com/topics/machine-learning#:~:text=Machine%20learning%20is%20a%20branch,learn%2C%20gradually%20improving%20its%20accuracy>

<sup>11</sup> "What is Supervised Learning?" *IBM - United States*, [www.ibm.com/topics/supervised-learning](http://www.ibm.com/topics/supervised-learning)

<sup>12</sup> "What is Unsupervised Learning?" *IBM - United States*, [www.ibm.com/topics/unsupervised-learning](http://www.ibm.com/topics/unsupervised-learning)

<sup>13</sup> Brooks, Ruth. "What is Reinforcement Learning?" *University of York*, 17 Aug. 2023, [https://online.york.ac.uk/what-is-reinforcement-learning/#:~:text=Reinforcement%20learning%20\(RL\)%20is%20a,using%20feedback%20from%20its%20actions](https://online.york.ac.uk/what-is-reinforcement-learning/#:~:text=Reinforcement%20learning%20(RL)%20is%20a,using%20feedback%20from%20its%20actions)

<sup>14</sup> "What is Deep Learning?" *IBM - United States*, [www.ibm.com/topics/deep-learning](http://www.ibm.com/topics/deep-learning)

## Data Mining

Data mining is defined as a process used to extract usable data from a larger set of any raw data. It implies analyzing data patterns in large batches of data using one or more software. Data mining has applications in multiple fields, like science and research.<sup>15</sup>

## BACKGROUND INFORMATION

### Overview of Artificial Intelligence (AI)

#### The operation of AI systems

AI systems try to imitate a variety of tasks normally performed by humans such as learning, reasoning, and understanding. AI systems operate by analyzing data and drawing conclusions or predictions from it. Existing data is necessary for AI systems to gain knowledge and enhance their problem-solving abilities. Text, pictures, videos, sensor readings and other similar information can be included in this collection of data. However, for the data to have effective outcomes, it has to be altered and cleaned, including the removal of noise in a video. AI frequently extracts key features—specific pieces of information—from the data being provided, either manually or automatically.

AI works based on algorithms, through which it is able to recognize patterns and make predictions or judgments based on data, using machine learning which is the capability of a machine to imitate intelligent human behavior and it is, then, trained on supervised learning, a subcategory of machine learning. Supervised learning uses labeled datasets to train algorithms to classify data or predict outcomes accurately. There are many different types of machine learning algorithms. For example, in image recognition, the model is trained on photos with predefined labels and, then, learns to recognize objects in images. The AI model finds patterns within the data without explicit labeling by using unsupervised learning, that learns from data without explicit guidance or instruction, unlike supervised learning and reinforcement learning, which allows an AI-driven system to learn through trial and error using feedback from its actions. Deep learning has gained prominence in recent years, as it is particularly effective for tasks involving large amounts of data, such as image and speech recognition. It teaches computers to process data in a way that is inspired by the human brain. Deep learning models can recognize complex patterns in pictures, text, sounds and other data to produce accurate insights and predictions.

The performance of many AI systems is continuously improved by incorporating feedback loops, which are algorithms that allow an AI model to

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<sup>15</sup> "The Economic Times: Business News, Personal Finance, Financial News, India Stock Market Investing, Economy News, SENSEX, NIFTY, NSE, BSE Live, IPO News." *Business News Today: Read Latest Business News, India Business News Live, Share Market & Economy News | The Economic Times*, <https://economictimes.indiatimes.com/defaultinterstitial.cms>

become more accurate over time through identifying errors made by the bot and feeding them back into it, in order to let it know that it has made an error and for it to avoid such errors in the future. In some AI systems, human oversight and involvement may be required, particularly when advanced decision-making, safety, or ethical issues are involved.

**Applications of AI across industries**

Applications for artificial intelligence have an influence that goes beyond better economic outcomes, since they have the potential to improve the overall human experience. The following figure illustrates the sectors where AI can be applied and what it can do.

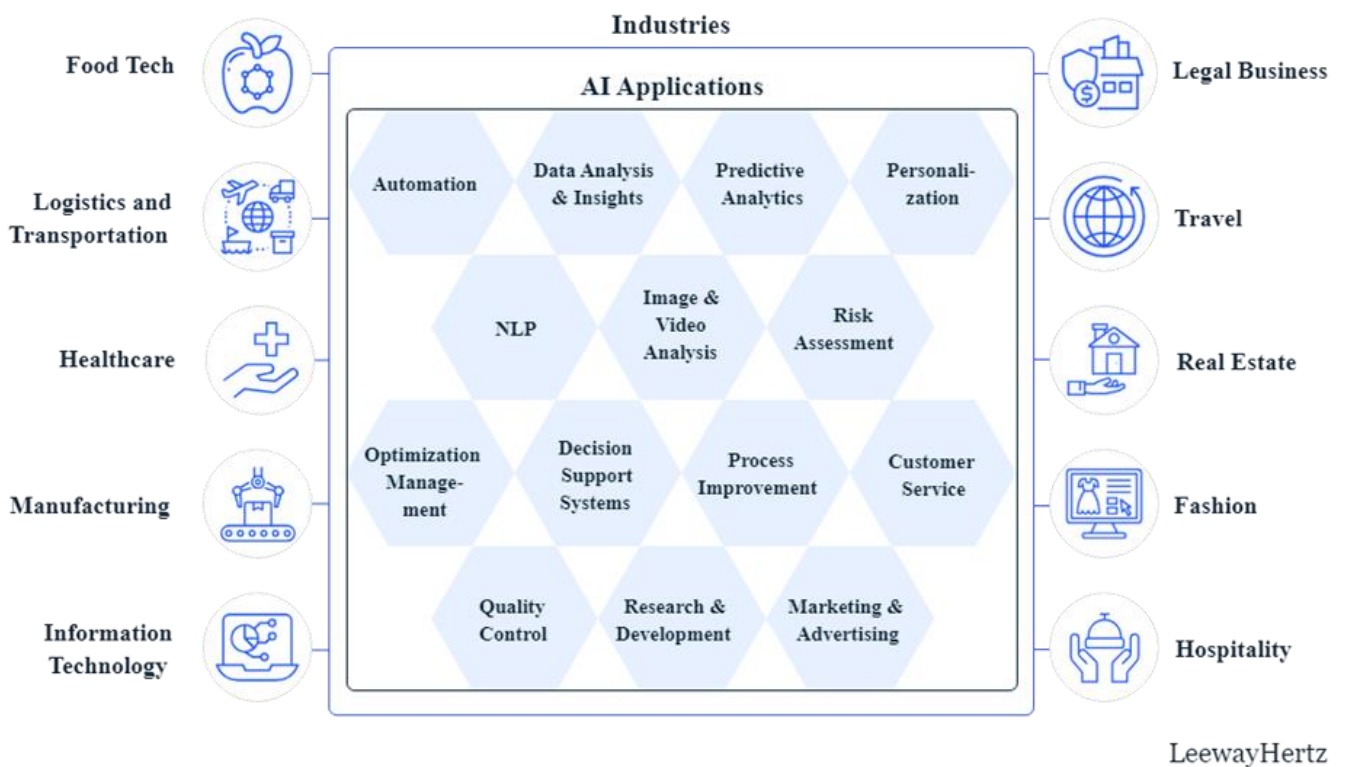


Figure 1: AI Cases Impacting Major Industries<sup>16</sup>

Data mining for pattern recognition and conducting accurate diagnosis of medical conditions are two examples of how AI is applied in healthcare services. Robotic surgery, drug discovery, medicine delivery and medical imaging are some areas where AI can be used. As an illustration, IBM Watson, an AI tool, may evaluate the significance and context of both structured and

<sup>16</sup> Takyar, Akash. "AI Use Cases & Applications Across Major Industries." *LeewayHertz - Software Development Company*, 11 Apr. 2023, [www.leewayhertz.com/ai-use-cases-and-applications/](http://www.leewayhertz.com/ai-use-cases-and-applications/)

unstructured data while deciding on a treatment strategy. After that, it can review the patient's medical history to identify the best courses of action. In other words, IBM Watson functions just like a real doctor.

AI not only exists in creative industries, but in many other sectors as well. E-commerce and retail are the sectors where AI application is most apparent. The advancement of AI has also had an impact on the industrial food processing sector and the banking and financial services sector. Additionally, the logistics and transportation industry gained benefits from AI-driven solutions. The use of machine learning has already changed the way that supply chain management is done. Furthermore, the travel industry is greatly improved by the widespread adoption of AI-enabled chatbots. Because of their constant presence and ability to ensure quick answers, chatbots are an effective strategy for increasing customer service and engagement. This strategy is also used in the creative industries. Finally, with a wide range of use cases, AI in education has influenced how people study. Personalized learning is one of these use cases, where AI may modify learning paths and instructional content in accordance with the requirements of particular students, improving engagement and learning outcomes.

#### A brief history of AI

The history of AI reflects periods of progress, setbacks, and optimism. Ongoing efforts by scientists focus on further development and understanding the limits of AI.

In 1950, Alan Turing released his book "Computing Machinery and Intelligence," which introduced the Turing test and paved the way for the development of artificial intelligence. The Turing Test is a method of inquiry in AI which determines whether a computer is capable of thinking like a human being or not. The term "artificial intelligence" was later coined by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon in 1956 as part of a proposal for a workshop that is typically seen as the beginning of the AI field.

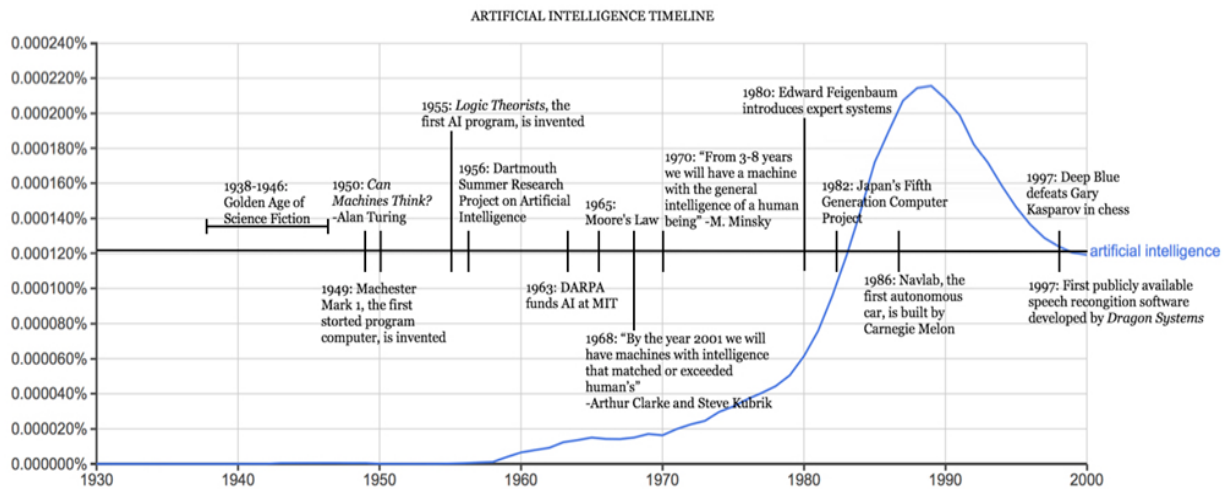


Figure 2: Timeline of AI<sup>17</sup>

Computers and AI vastly improved in speed, affordability, and accessibility while storing more data from 1957 to 1974.<sup>18</sup> Early experiments, such as ELIZA and the General Problem Solver, showcased promise in problem-solving and language interpretation. For example, ELIZA enabled natural language conversations through the analysis of input sentences. However, there was still an issue with AI. It was computers' inability to process information quickly enough or store sufficient amounts of data to accomplish anything useful. Funding gradually fell, and for around 10 years, research slowed down.

The revival of AI in the 1980s was fueled by increased funding and the expansion of the algorithmic toolbox. "Deep learning" methods, popularized by John Hopfield and David Rumelhart, enabled computers to learn from experience. A \$400 million Japanese government investment aimed at revolutionizing computer processing and advancing AI from 1982 to 1990 had mixed success. Notably, in 1997, IBM's Deep Blue defeated world chess champion Gary Kasparov, marking a significant milestone in the development of artificially intelligent decision-making software.

Today, AI applications play a vital role in diverse industries such as finance, healthcare, and autonomous vehicles. The expanding influence of AI has led to increased discussions on ethical concerns, bias, transparency, and responsible development. Ongoing research in AI ethics, generative models, and reinforcement learning continues to drive evolution in the field. Notable AI programs, including ChatGPT and Cimon (the first robot in space), have

<sup>17</sup> SITNFlash. "The History of Artificial Intelligence." *Science in the News*, 23 Apr. 2020, <https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/>

<sup>18</sup> "Artificial Intelligence." [www.hpe.com/emea\\_europe/en/what-is/artificial-intelligence.html](http://www.hpe.com/emea_europe/en/what-is/artificial-intelligence.html)



emerged since 2006, showcasing the ongoing development and innovation in AI.

### AI in the Creative Industries

When compared to ordinary behaviors, processes related to the creative sector demand much higher levels of inventiveness and skill sets. The potential use of AI in the creative industry has been extensively studied over many years. The availability of the technology itself and the assumption that AI could try to imitate human creativity were two of the limits in the past.<sup>19</sup>

For a very long time, the arts were thought to be the sole domain of human innovation. But as it happens, AI is much more useful in the creative sector than first thought, and individuals are now being challenged by their own inventions. For example, AI is used commonly in games, where it refers to responsive and adaptive video game experiences. Those interactive experiences are usually generated via non-player characters or NPCs, that act intelligently or creatively as if they were used by a human player. The usage of AI in the creative industries has greatly risen during the past five years. The growth rate of research publications on AI that are relevant to the creative industries is greater than 500% in many countries (e.g., 1490% in Taiwan), and the majority of these publications deal with image-based data, according to Davies et al. (2020), who analyzed data from arXiv and Gateway to Research.<sup>20</sup> Due to the aforementioned, the research output in this sector is five times greater, thus, one can comprehend that this is a topic which has gained a lot of recognition especially during recent years and that people have started to understand that this is a really controversial and debatable issue. According to a review of firm usage from the Crunchbase database, AI is used more commonly in games, immersive applications, advertising, and marketing than in other creative applications. A multitude of AI artists have surfaced, employing intricate algorithms to produce one-of-a-kind works of art that range from profound poetry and sublime music to movie scripts and images. For example, the Paris-based art collective Obvious employed Generative Adversarial Networks (GANs) in October 2018<sup>21</sup> to create a painting portrait called "Portrait of Edmond Belamy" using AI. The artwork was sold for about 45 times its high estimate. 15,000 portraits from the 14th to the 20th century were given to the algorithm's creators for assessment with the objective of learning from the aesthetics of the earlier portrait examples. This Edmond Belamy portrait demonstrates how AI can introduce a new artistic genre. AI has reduced the entry barrier into creative industries such as music production and graphic design.

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<sup>19</sup> "Artificial Intelligence in the Creative Industries: a Review." *SpringerLink*, 2 July 2021, <https://link.springer.com/article/10.1007/s10462-021-10039-7>

<sup>20</sup> "Artificial Intelligence in the Creative Industries: a Review." *SpringerLink*, 2 July 2021, <https://link.springer.com/article/10.1007/s10462-021-10039-7>

<sup>21</sup> "Artificial Intelligence in the Banking and Financial Services Industry." *Tesseract Academy*, 13 Sept. 2023, <https://tesseract.academy/artificial-intelligence-in-the-creative-industries/>

With AI tools and their creative vision, people without technical experience can now progressively close that gap and enter the space. Because of its almost limitless potential, technology is growing and redefining what businesses can achieve. With the availability of chatbots on mobile devices, businesses and consumers can now leverage AI in creative industries even more easily. The market for mobile artificial intelligence is projected to increase from \$2.14 billion in 2021 to \$9.68 billion by 2027.<sup>22</sup>

### Opportunities created by AI in the Creative Industries

Artificial intelligence is taking on a bigger role in the creative industry and benefits customers, designers, and artists in many ways. All businesses must include AI and machine learning (ML) right away into their models, according to the Appen State of AI Report for 2021, in order to stay competitive.<sup>23</sup> Businesses are increasingly utilizing AI to automate internal activities (as well as some applications and processes that deal with customers). By using AI, a business may achieve its objectives more quickly and accurately. Efficiency gains are among the most important advantages of AI for the creative industry. Many of the repetitive and time-consuming processes associated with the creative process can be automated by AI, freeing artists and designers to concentrate on more original and creative work. In turn, this can quicken the creative process and lower expenses. There are several examples of AI tools that can be used in the creative industries in order to quicken the creative process. An AI-powered color palette generator called "Colormind" for the design industry can assist someone in selecting colors for their designs, while "NVIDIA Canvas" is a painting and sketching program that uses AI to give users a simple and natural approach to produce digital art. Additionally, "MidJourney" can produce graphics from written explanations and more than 30 magical AI editing tools are available in "Runway", where users can recognize sceneries, detect items, and stabilize the videos they create. The final example is "Whisper," which provides robustness and accuracy in English speech recognition comparable to those of humans.<sup>24</sup>

An additional advantage of AI for the creative sector is improved personalization. AI can analyze a lot of data to customize creative output for certain clients, such as offering clothes or making music recommendations. As a result, there may be an increase in interest in novel products and services and customer satisfaction.

AI can also help foster greater innovation and creativity. It can assist to push the limits of what is possible in the creative sector by providing new means of coming up with ideas and investigating creative possibilities. AI algorithms, for instance, can

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<sup>22</sup> "Council Post: How AI Is Changing The Future Of Creative Enterprise." *Forbes*, 5 Oct. 2023, <https://www.forbes.com/sites/forbestechcouncil/2023/03/27/how-ai-is-changing-the-future-of-creative-enterprise/>

<sup>23</sup> "What Are the Advantages and Disadvantages of Artificial Intelligence (AI)?" *Tableau*, [www.tableau.com/data-insights/ai/advantages-disadvantages#:~:text=if%20not%20prohibitive.-,Lack%20of%20emotion%20and%2](http://www.tableau.com/data-insights/ai/advantages-disadvantages#:~:text=if%20not%20prohibitive.-,Lack%20of%20emotion%20and%2)

<sup>24</sup> *LinkedIn*, [www.linkedin.com/pulse/artificial-intelligence-creative-industries-tobin-thomas](http://www.linkedin.com/pulse/artificial-intelligence-creative-industries-tobin-thomas)

recommend color schemes, composition alternatives, and features of design that artists may not have thought of before.

A further benefit is that AI algorithms are always available, unlike individuals, who typically work eight hours a day. Machines may operate throughout the day and night, and chatbots with AI can provide customer service even after hours. Businesses might be able to create more and provide clients with a better experience as a result than they could otherwise.

Finally, a positive aspect gained from AI is unbiased decision making. People can make decisions that are biased and in disagreement with one another. The AI algorithm, on the other hand, will be able to generate decisions free from bias if it has been trained using unbiased datasets and tested for programming bias. That may contribute to increased equity in decisions regarding things like choosing employment applicants, accepting loan applications, or approving credit applications. However, if the AI was trained on biased datasets or training material, it may make biased judgments that go undetected because people tend to take the decisions as being neutral. To make sure that bias issues aren't missed, it is crucial to do quality checks on both the training data and the output of a particular AI software.

### Challenges with the use of AI in the Creative Industries

Using AI in the creative industry has a number of benefits, but there are some drawbacks as well.

Intellectual property concerns that arise from the application of AI in the creative industries are crucial to note. The ownership rights of a work are an important issue as these systems can produce original content from questions or characteristics found in data. Do the rights belong to the programmer? Or do they belong to the person who entered the data into the system? In the pursuit of clarification, definitive answers have not been provided yet. There are also complications related to authorship and attribution. Artificial intelligence lacks motive and consciousness, in contrast to human producers. Authorship is called into question by this absence, which makes it challenging to assign creative works to a particular person or group. Issues of fair use and transformative works arise as AI often generates content by remixing or transforming existing material. Determining whether AI-generated works qualify for fair use protection under copyright law requires a nuanced assessment of the transformative nature of the content.

The potential loss of originality and creativity in people is one of the major concerns. It is very common that when people do any kind of artistic activity (drawing, writing songs etc.) their work is combined with their emotions and current thoughts. Thus, the outcome differs with regard to a person's mental state. This results in the originality of a creation, which is representative of different people and their emotions. As AI algorithms advance, they may start to produce works of art, music, and other creative expressions that lack the originality and emotional depth of those produced by humans. This might lead to a situation in which all artistic productions

begin to sound or look alike, restricting the diversity of artistic expression. In addition to that, AI is not capable of true innovation, as it is only capable of creativity under specific instructions. Which means that it could not create a completely new genre in a specific category. For example, AI would not be able to create a new art school like cubism or surrealism or new techniques into music.

Lack of emotional intelligence is another possible consequence of AI in the creative industry. AI is capable of data analysis and content generation, but it is unable to comprehend and express complex emotions like humans can. The potential of AI-generated works to fully engage people on an emotional level—a vital component of many creative works—could be constrained as a result.

The application of AI in the creative industry raises ethical questions as well. For example, there is a chance that AI-generated Content could deceive viewers or promote negative stereotypes or biases. This could occur, as AI learns from previous data, which might reflect and reinforce societal biases. The AI model can give biased results if the training data has been altered or not representative. In this case, using inaccurate information in hiring algorithms may target particular demographic groups. To avoid such negative outcomes, to recognize and correct bias, is essential so as to comprehend how AI systems decide. Stakeholders can find unfair outcomes and correct them with the use of transparent and understandable AI.

Finally, since AI can immediately do repetitive tasks that were previously performed by employees, if AI grows more prevalent in businesses, it may result in fewer open positions. However, numerous reports indicate that AI will probably create as many new jobs as it eliminates. Nevertheless, these jobs will be connected to the AI sector and, therefore, forced to become AI-related. This will have the outcome that these new jobs won't be within the original creative industries and employees, whose tasks could be taken by AI will still lose their jobs and fewer positions in that sector will be open. The challenge comes when workers must be trained for these new tasks or risk being left behind as technology advances.

### Application of AI in Different Sectors of the Creative Industries

While manufacturing jobs are typically more repetitive or predictable and, therefore, more possible to be performed by machines, creative duties typically involve some degree of original thought, vast experience, and a knowledge of the audience. When utilized for the creation of original creative works, AI technologies have so far shown varying degrees of success. AI is used in each creative sector differently. Firstly, in the content creation sector, visual art, such as paintings, illustrations, and graphic design, can be produced by AI. Utilizing input or personal preferences, tools like Generative Adversarial Networks (GANs) produce art. Additionally, AI-driven algorithms can help authors by generating content, aiding in brainstorming, or making suggestions for changes. They can also compose music, create melodies, and even make full songs, catering to various musical genres and moods. Some AI programs have even been known to produce complete articles, short stories, or poetry. The aforementioned can be considered as really helpful for the creator. AI is able to collect the person's

preferences in order to generate art, propose ideas for content or even create music from given data. These can help producers by saving them time and providing them with new ideas according to their preferences on which they can expand more afterwards. Although really helpful, this also can lead to questions of originality and creativity. For example, if all influencers were inspired by similar ideas given from AI, the originality of the outcomes would decrease with time.

AI can also be used to improve animation and produce special effects for usage in films, video games, and other digital media. This includes accurate representations of environmental events like fire, water, and weather. This is a really common way in which AI is used and helps content be more realistic and amusing. Of course, there are also drawbacks to this, as, for instance, that producers could rely too heavily on AI for the creation of content and, thus, lead to a reduction of human creativity and craftsmanship. However, this could also be considered less important, as human creativity is reflected throughout all the other processes of, for example, filmmaking, through storytelling, emotion and the characters. AI-driven Text-to-Speech (TTS) and speech synthesis systems also create realistic and natural-sounding voice overs, audiobooks, and voice assistants. This operation of AI has impressed people during the past years. One is able to communicate in a language they do not speak, or hear the voice of a celebrity talking to them without them being the one who actually talks. There can be ethical concerns related to the use of AI-generated voices, especially when it comes to deepfake technology. Misuse of AI-generated voices for malicious purposes, such as impersonation or spreading misinformation, is a significant concern. However, when used responsibly and with the correct regulations, those features can be really helpful to humans. AI-driven editing tools can automatically edit footage, create transitions, and improve video quality. They can also improve the quality of photos, videos, and audio recordings by enlarging the resolution, reducing noise, and enhancing clarity. This is a feature which, of course, can help the improvement of creative works. Nevertheless, ethical questions arise in this case as well as the promotion of unrealistic standards for people through intense picture editing. Furthermore, AI algorithms are used by streaming services and content producers to study user preferences and viewing patterns and give content recommendations to increase user engagement and international distribution is made easier by AI-driven translation and localization systems that assist tailor material for worldwide audiences. In this case AI can help with the creation of content which a greater audience will most probably like and, thus, increase their activity with the given content, leading, for example, to increased income for the creators.

In the creation of video games, AI is used to construct Non-Player Characters (NPCs), increase gameplay, and optimize game mechanics. It also improves VR and AR experiences by creating realism in surroundings, interactive characters, and immersive simulations. AI-driven data analytics solutions give content producers insights into audience behavior, enabling data-driven content strategies that let them employ AI for more efficient chatbot engagement, targeted advertising, and content improvement.

## MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

### United States of America (USA)

With a large number of universities, research centers, and tech corporations actively working to advance AI technologies, the United States is a global leader in the field. Leading research centers for AI include Stanford University, MIT, UC Berkeley, and Carnegie Mellon University. Tech giants like Google, Facebook, and Microsoft are also at the forefront of AI-driven research. Companies in the United States are looking into new chances to expand their position in the industry through acquisitions, sharing agreements, and internal advancements as the race to dominate AI becomes increasingly competitive on a global scale. However, the US has also addressed regulations in regard to the topic. In October of 2022, the White House published an AI Bill of Rights to guide the advancement and application of the technology. It requested opinions from citizens on the AI concerns that the government should focus on. In general, state officials are acting more quickly than national leaders to impose regulations on AI, especially when it comes to civil rights. California lawmakers, for example, are developing guidelines to address racial bias in the algorithms used by firms to screen job candidates. Similar regulations for automated hiring technologies are also being implemented in New York. At least 163 laws mentioning AI had been introduced as of mid-May 2023 in 34 states.<sup>25</sup>

### China

Significant investments and achievements have been made by China in the field of AI. China has laid out goals to take the lead globally in the field's study, creation and use. Through a number of efforts for financing and policy changes, the Chinese government has demonstrated its significant support for AI research and development. By 2030, China wants to be the world's leading center for AI innovation, according to the "Next Generation Artificial Intelligence Development Plan," which was published in 2017.<sup>26</sup> Leading universities and research institutions in China are also advancing AI technology and the country has a fast-expanding AI research community. Important academic institutions have set up AI research labs and centers, including Tsinghua and Peking University. AI research and development is receiving significant funding from Chinese tech companies as well. Some examples are Baidu, Alibaba and Tencent. They have advanced significantly in many fields of AI, including speech recognition, computer vision and natural language processing. Similar to the "FAANG" giants in the US (Facebook (now Meta Platforms), Amazon, Apple, Netflix and Google), Baidu,

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<sup>25</sup> "The History of Artificial Intelligence." *The Washington Post*, 31 May 2023, [www.washingtonpost.com/business/2023/05/31/regulate-ai-here-s-what-that-might-mean-in-the-us/770b9208-ffd0-11ed-9eb0-6c94dcb16fcf\\_story.html](https://www.washingtonpost.com/business/2023/05/31/regulate-ai-here-s-what-that-might-mean-in-the-us/770b9208-ffd0-11ed-9eb0-6c94dcb16fcf_story.html).

<sup>26</sup> "In Their Own Words: New Generation Artificial Intelligence Development Plan." *Air University (AU)*, [www.airuniversity.af.edu/CAS/Display/Article/2521258/in-their-own-words-new-generation-artificial-intelligence-development-plan/](http://www.airuniversity.af.edu/CAS/Display/Article/2521258/in-their-own-words-new-generation-artificial-intelligence-development-plan/).

Alibaba and Tencent are commonly referred to as "BAT" in the Chinese tech sector. AI is being actively used in China's industrial, banking, healthcare, and transportation sectors, as well as the nation's creative industries, which include fields like media, entertainment, and the arts in order to improve creativity, automate jobs, and produce original content.

Particularly in areas like data protection and algorithm transparency, China has begun to build rules and regulations relating to AI (these include, for example, measures governing recommendation algorithms—the most omnipresent form of AI deployed on the internet—as well as new rules for synthetically generated images and chatbots in the mold of ChatGPT). Fairness and bias are two ethical issues related to AI that are also being addressed.

### European Union (EU)

The EU has taken significant steps regarding the issue of AI. Firstly, in April 2021, the "Artificial Intelligence Act," a comprehensive legislative framework for AI, was proposed in the EU. With a focus on high-risk AI applications, this proposed regulation seeks to establish guidelines for AI development and use. It comprises clauses addressing data quality, accountability, openness and conformance evaluations for AI systems. Moreover, through the High-Level Expert Group on Artificial Intelligence (AI HLEG), the EU has released proposals for reliable AI development. These guidelines stress the significance of fairness, accountability, openness and human review in AI systems. To help efforts to combat climate change and promote sustainability, such as increasing energy efficiency and lowering emissions, the EU has designated AI as a critical technology and so as to provide universal guidelines and standards for the creation and application of AI, the EU is actively participating in international talks and partnerships on the subject. The European Parliamentary Research Service examined a variety of challenges that the development and commercialization of AI raised in 2020. These challenges needed to be considered across different decision-making levels. In addition, the statement emphasized the importance of addressing the public because "employment impacts and privacy intrusions are increasingly tangible for citizens while the promised benefits to their health, wealth, and environment remain intangible." The EU aims to make sure that AI follows EU laws and ideals while also taking into consideration the hopes and fears of citizens who have joined the AI race. The EU's small and medium-sized businesses (SMEs) are also encouraged to participate in this initiative's goal of creating a competitive market. Finding solutions to the aforementioned problems is especially crucial for the cultural and creative sectors (CCSs), the majority of which are SMEs within the EU and are reliant on intellectual property and copyright for their operations. Numerous Parliamentary committees and Commission directorates have been active in AI-related policy at the EU level, demonstrating the complexity of the issue and the variety of problems it can raise. But there still isn't a body only responsible for AI.

### United Nations Educational Scientific and Cultural Organization (UNESCO)

UNESCO has long taken the lead in the global effort to make sure that science and technology advance within ethical bounds. A collaboration between UNESCO and businesses operating in Latin America that are engaged in the research or application of AI in a number of areas is the Ibero-American Business Council for Ethics of AI. The Council offers organizations a venue for interaction, knowledge sharing, and the advancement of ethical behavior in the AI sector. It collaborates closely with UNESCO to make sure AI is created and applied in a way that upholds moral principles and human rights. The Council, which is currently co-chaired by Microsoft and Telefonica, is dedicated to enhancing technical capacities in ethics and AI, designing and putting into use the Ethical Impact Assessment tool required by the Recommendation on the Ethics of AI, and helping to create smart regional regulations. It works to promote the responsible and ethical use of AI through these initiatives and to foster a competitive environment that benefits all stakeholders in Latin America.<sup>27</sup> Furthermore, UNESCO is calling on governments to implement appropriate regulations and teacher training, to ensure a human-centered approach to using Generative AI in education. To this end, UNESCO publishes the first-ever global Guidance on Generative AI in Education and Research, designed to address the disruptions caused by Generative AI technologies (7 September 2023). The first sections of the UNESCO Guidance explain what Generative AI is and how it works. The following sections elaborate on the controversies around Generative AI and their implications for education, in particular, how it is worsening digital data divides as the current ChatGPT models are trained on data from online users which reflect the values and dominant social norms of the Global North. Regarding the creative industries, the potential impact of AI on creativity and artistic expression is acknowledged by UNESCO. Its efforts in this area aim to establish a balance between technical advancement and cultural preservation, creating an atmosphere in which AI benefits the creative sectors while upholding the principles of cultural variety and history. This happens through seminars in which discussions on AI ethics in the creative industries take place by addressing issues such as bias, transparency, and responsible AI development.

### World Intellectual Property Organization (WIPO)

The invention, production, and distribution of economic and cultural goods and services are all covered in a multi-stakeholder platform offered by WIPO. It also addresses the growth of AI applications across the economy and society as well as their significant impact on these processes. A Conversation on the Internet Protocol (IP) and AI is being organized by WIPO to talk about how AI is influencing IP. Attending are member states and other interested parties. To collaboratively formulate the questions that policymakers must pose, WIPO organized the first session of the WIPO Conversation on IP and AI in September 2019. WIPO published a draft Issues Paper on

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<sup>27</sup>"Business Council for Ethics of AI." *UNESCO : Building Peace Through Education, Science and Culture, Communication and Information*, 15 Jan. 2024, [www.unesco.org/en/artificial-intelligence/ibero-america-network#:~:text=The%20Ibero-American%20Business%20Council,\(AI\)%20in%20various%20sectors](http://www.unesco.org/en/artificial-intelligence/ibero-america-network#:~:text=The%20Ibero-American%20Business%20Council,(AI)%20in%20various%20sectors).



IP policy and AI in December 2019 and started a public consultation process to get opinions. This exercise highlighted the most significant concerns that IP policy makers are likely to face as AI becomes more prevalent. More than 250 submissions were produced during the consultation phase. In May 2020, a new Issues Paper on IP policy and AI was published, taking into account the comments received. The subjects included in the Revised topic's paper were carefully examined at the second meeting, which discussed questions of IP protection for AI works and inventions, and data. The third meeting, was dedicated to connection of AI with trademarks and capacity building. The meetings took place in July and November of 2020, respectively. AI innovations were the focus of the sixth WIPO Conversation session, which was held in September 2022. A report detailing potential AI inventorship scenarios is now being edited for publication in 2023.

## TIMELINE OF EVENTS

DATE	DESCRIPTION OF EVENT
2013	DeepMind introduces deep reinforcement learning, a Cable News Network (CNN) that learns based on rewards and learned to play games through repetition, surpassing human expert levels (this network is applied when using AI in the creative industries).
7 June 2017	"AI for Good Global Summit" was first organized by the ITU (International Telecommunication Union), a UN agency. The aim of this event was to discuss how AI can be used to address global challenges.
December 2019	WIPO publishes a draft Issues Paper on IP policy and starts a public consultation process to get opinions; intellectual property is one of the main questions arising on the issue of AI in the creative industries.
5 December 2019	Cimon, a robot which was developed by IBM, Airbus and the German Aerospace Center DLR, is the first robot that sent to space to assist astronauts, although not directly related to AI in the creative industries, the major development and effect of AI is reflected through this event.
May 2020	A new Issues Paper on IP policy and AI is published, taking into account the comments received on the previous consultation phase in 2019.

November 2020	The third meeting of WIPO takes place, and is dedicated to the connection of AI with trademarks and capacity building.
21 April 2021	The EU introduces the first attempt to regulate AI on a super-national level, including the creative sector.
25 November 2021	193 countries adopt the first ever agreement on Ethics of AI, which is a main aspect when discussing the AI regulation in the creative industries.
September 2022	AI innovations are the focus of the sixth WIPO Conversation session.
30 November 2022	A huge language model-based chatbot named ChatGPT, whose name stands for Chat Generative Pre-trained Transformer, is created by OpenAI and released, allowing users to shape and direct a conversation towards a desired duration, structure, style, degree of information, and language used.
7 September 2023	UNESCO publishes the first-ever global Guidance on Generative AI in Education and Research, designed to address the disruptions caused by Generative AI technologies.

## PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

### First global Agreement on the Ethics of AI

On the 25th of November in Paris, the first ever global standard on the ethics of artificial intelligence, was presented by Audrey Azoulay, the Director-General of UNESCO and adopted by the member states of UNESCO at the General Conference. To secure the healthy development of AI, the presentation made reference to the shared values and principles that will direct the creation of the essential legal framework. More specifically, the agreement deals with the issues raised by Human Rights Council Resolution 47/23, particularly those pertaining to AI. The historic agreement of 193 Member States on the fundamental values, principles, and policies that should guide the development of this game-changing technology is represented by UNESCO's Recommendation on the Ethics of Artificial Intelligence. It offers practical routes, such as innovative instruments, processes, and programs, to guarantee optimizing AI's beneficial effects while managing its hazards. The recommendation

offers moral direction to all AI actors, including the private sector, although it is aimed at Member States.

### US Copyright Office

The relationship between machine learning and copyright is a topic that the Copyright Office has long been involved in. The Office's annual report from 1965<sup>28</sup> stated that advancements in computer technology had started to bring up "difficult questions of authorship," namely the issue of who is the author of works that are "written" by computers. The Office continued to take part in discussions on AI issues in the years that followed as the technology advanced beyond the realm of theories. From a conference organized by the World Intellectual Property Organization ("WIPO") in 1991 to more recent events that the Office co-hosted with WIPO and the U.S. Patent and Trademark Office, the Office has been involved in these discussions. In 2019 the United States Copyright Office published research that looked at how AI and copyright law interacted. The report looked into things like authorship, ownership, and copyrightability of AI-generated works. To better grasp the difficulties presented by AI in the creative sector, it requested public feedback on these issues. In 2022, a second registration application was made for a work that combined generative AI content with human authorship. The project was a graphic novel, with text written by the applicant in person and graphics made by generative AI called Midjourney. The Office concluded that copyright covered the human-authored text as well as the human selection and arrangement of the text and images, but not the AI-generated images themselves, after requesting information from the applicant regarding the process of the work's creation. According to the Office, for copyright reasons, a human author is not the "author" of AI-generated elements of a work if the human author does not have adequate creative control over those elements. Beginning in early 2023, the Copyright Office began a study to look into the legal and policy issues surrounding copyright that artificial intelligence technology has raised, including the extent of copyright in works created using AI tools and the use of copyrighted content in AI training. To gather information about modern technologies and their effects, the Office held open webinars and public hearing sessions, and in August 2023, it issued a notice of inquiry in the Federal Register.

### Attempts by the Creative Sector

A number of creative sectors have developed various policies and programs. As an example, the International Confederation of Societies of Authors and Composers (CISAC) has urged the formulation of moral guidelines for works produced by artificial intelligence. In the same way, groups like the World Economic Forum (WEF) and the World Intellectual Property Organization (WIPO) have investigated how AI may affect creative industries and intellectual property. However, as the WEF and the WIPO are two different organizations, it is possible that their viewpoints and conclusions according to this issue vary in some aspects. With reference to an article from the

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<sup>28</sup> U.S. Copyright Office | U.S. Copyright Office, [www.copyright.gov/ai/docs/Federal-Register-Documents-Artificial-Intelligence-and-Copyright-NOI.pdf](https://www.copyright.gov/ai/docs/Federal-Register-Documents-Artificial-Intelligence-and-Copyright-NOI.pdf)

WEF, which reflected conclusions from discussions regarding this issue in early May 2023, while concerns about job security have dominated discussions, researchers emphasize that generative AI also presents opportunities for increased productivity, efficiency, and profits. The World Economic Forum's Growth Summit 2023 in Geneva highlighted the significant impact of generative AI on various sectors, underscoring both challenges and potential benefits. For creative industries, generative AI will bring a range of rewards but only if sophisticated guardrails are put in place to protect original content and designs.<sup>29</sup> There are still ongoing sessions from the WIPO on this issue, so a clear conclusion has not been made yet. However, implications for copyright law, the commercial impact, legal options and guidelines for organizing awareness raising campaigns have been addressed.<sup>30,31</sup>

Copyright and ownership concerns for AI-generated work were being discussed by creators and organizations in the creative industry. When AI got involved in the creation of content, there were concerns raised about whether it should be regarded as a creator and how to assign authorship. The topic of conversation was how to preserve accountability for AI-generated material. This was crucial since consumers might not instantly recognize how much AI is involved in the creative process.

## POSSIBLE SOLUTIONS

The promotion of innovation and creativity in the creative industries must be balanced with the protection of ethical issues, the rights of creators, customers, and society at large. Any legislative structure should be adaptable enough to keep up with how AI is transforming the creative industries.

### Standardized Legal Frameworks on the use of AI in the Creative Industries

Legal frameworks and modifications to existing copyright laws are crucial to address challenges posed by AI-generated content. These frameworks should encompass ownership identification, credit, and payment systems for AI-created works, along with the establishment of clear ethical standards within the creative industries. Ethical considerations should cover issues such as prejudice, responsibility, and explainability.

To enhance transparency, laws mandating full disclosure when AI is involved in content creation should be implemented. This can be achieved through measures like labeling or watermarking AI-produced content, providing consumers with awareness about AI's role in the creative process. Legal professionals and legislators can further promote responsible AI use by organizing open forums and presentations, fostering

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<sup>29</sup> "How Will Generative AI Change Creative Jobs?" *World Economic Forum*, 9 May 2023, [www.weforum.org/agenda/2023/05/generative-ai-creative-jobs/](http://www.weforum.org/agenda/2023/05/generative-ai-creative-jobs/).

<sup>30</sup> *WIPO - World Intellectual Property Organization*, [www.wipo.int/edocs/mdocs/mdocs/en/wipo\\_ip\\_san\\_22/wipo\\_ip\\_san\\_22\\_www\\_615992](http://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_san_22/wipo_ip_san_22_www_615992)

<sup>31</sup> "Artificial Intelligence and Copyright." *WIPO - World Intellectual Property Organization*, [www.wipo.int/wipo\\_magazine/en/2017/05/article\\_0003.html](http://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html)

discussions among creators and consumers to gather diverse perspectives and knowledge on the matter. Achieving a global standard in AI regulation for the creative industries requires widespread collaboration and standardization efforts. Collaborative organizations or review panels, consisting of professionals from AI ethics, law, and the creative sectors, can assess and establish standards for AI-generated material. Multilateral collaboration enables nations and cultures to contribute diverse viewpoints, resulting in the development of inclusive ethical standards that address algorithmic biases, cultural heritage impact, and moral considerations in AI-generated content. These global standards also play a crucial role in defining ownership of intellectual property in AI-created works. Through the establishment of ownership, copyright, and fair use regulations for AI-generated content, nations can ensure proper compensation for creators while fostering an environment conducive to innovation. This unified framework provides both new and established businesses with clear guidelines, encouraging investment in research and development and ensuring regulatory compliance.

### Safe AI applications and regulations

AI could be regulated as part of digital strategy to create better circumstances for the creation and application of this technology. Numerous advantages of AI include improved healthcare, safer and cleaner transportation, more productive manufacturing, and more affordable and environmentally friendly energy sources. AI systems can be applied to various tasks, analyzed and categorized in accordance with the risk they present to humans. Different danger levels will result in varying degrees of regulation. Making sure that AI systems deployed are secure, open, traceable, non-discriminatory, and environmentally friendly is also crucial. For example, face recognition or autofocus methods must be trained on a broad range of skin types and facial features to avoid failure for certain ethnic groups or genders. Effective artificial intelligence (AI) systems have the potential to decrease human bias in decision-making processes while also improving decision-making speed and accuracy. Even a network that was initially trained with balanced data may eventually develop some bias, though, as the complexity of the data that a trained AI system processes is likely to increase over time. Therefore, periodic retraining could be required. Moreover, so as to avoid negative results, human oversight of AI systems should be preferred to automation. Finally, AI should be defined in a consistent, technology-neutral manner that might be used to describe future AI systems.

### Promotion of regulatory sandboxes

A regulatory sandbox is a platform that lets companies test out novel and inventive products, services, or projects while staying under the supervision of regulators. Incentives are given to entrepreneurs to test their ideas in a controlled setting, regulators may gain a better understanding of the technology and ultimately, consumer choice is promoted. Regulatory sandboxes are especially important for new technologies like AI, because regulations may not keep up with rapid technological development. Regulatory sandboxes can be beneficial for controlling AI use in the

creative industries in numerous ways. The creative industries are progressively incorporating AI technology for content creation, curation and distribution, as AI is advancing at a rapid rate. Companies can experiment with new AI applications in regulatory sandboxes without worrying about facing legal repercussions. This encourages creativity and makes it possible to create ground-breaking solutions. Regulators and industry stakeholders can learn about the consequences of artificial intelligence in the creative industries through regulatory sandboxes. It promotes cooperation between content producers, technology developers and regulatory agencies, resulting in a deeper comprehension of the benefits and difficulties related to artificial intelligence in this particular setting. This application could also benefit consumers, as the introduction of new and potentially safer products, as regulatory sandboxes could foster innovation and consumer choice in the long run. AI applications can be tested on a modest scale in certain creative industry categories with the help of a regulatory sandbox. This facilitates the customization of legislation to the distinct requirements and attributes of different creative industries.

### Education and Awareness on the Subject

To ensure a better knowledge of AI and its consequences in the creative industries, public awareness (e.g. through social media, the press etc.) and education campaigns are of great importance. Education and awareness would help in order for people to be more open minded upon this topic and not to rule out AI generated works, without knowing the details of their creation. This would lead to a better understanding between AI content creators and consumers in general.

### BIBLIOGRAPHY

"What Are the Creative Industries?" *Find Your Perfect Role in the Creative Industries - Creative Careers*, <https://discovercreative.careers/students-and-parents/what-are-the-creative->

industries/#:~:text=The%20creative%20industries%20include%3A,virtual%20reality%2C%20and%20extended%20reality

"Artificial Intelligence in the Creative Industries: a Review." *SpringerLink*, 2 July 2021, <https://link.springer.com/article/10.1007/s10462-021-10039-7>

"How Generative AI Could Disrupt Creative Work." *Harvard Business Review*, 13 Apr. 2023, <https://hbr.org/2023/04/how-generative-ai-could-disrupt-creative-work#:~:text=A%20natural%20language%20interface%20combined,more%20and%20better%20creative%20output>

"AI Vs Humans: Will AI Take over the Creative Industry?" *GoVisually*, 10 Feb. 2023, <https://govisually.com/blog/ai-vs-humans/#:~:text=However%2C%20most%20experts%20agree%20that,evolution%20of%20the%20creative%20industry>

"How Artificial Intelligence is Changing Creativity." *Performance Marketing & Advertising - Beyond Agency*, 15 2023, [www.beyond.agency/blog/how-ai-emerging-technologies-are-changing-the-creative-](http://www.beyond.agency/blog/how-ai-emerging-technologies-are-changing-the-creative-landscape#:~:text=Creative%20AI%20examples&text=A%20popular%20music%20p)

landscape#:~:text=Creative%20AI%20examples&text=A%20popular%20music%20p

"The Intersection Of AI And Human Creativity: Can Machines Really Be Creative?" *Forbes*, 28 Mar. 2023, [www.forbes.com/sites/bernardmarr/2023/03/27/the-intersection-of-ai-and-human-creativity-can-machines-really-be-creative/](http://www.forbes.com/sites/bernardmarr/2023/03/27/the-intersection-of-ai-and-human-creativity-can-machines-really-be-creative/)

"Is AI the Start of the Truly Creative Human?" *EY US - Building a Better Working World*, 27 June 2023, [www.ey.com/en\\_us/ai/is-ai-the-start-of-the-truly-creative-](http://www.ey.com/en_us/ai/is-ai-the-start-of-the-truly-creative-human#:~:text=There%20are%20three%20primary%20ways,create%20new%20wa)

human#:~:text=There%20are%20three%20primary%20ways,create%20new%20wa  
ACM Digital Library,  
<https://dl.acm.org/doi/pdf/10.1145/3575665#:~:text=Can%20AI%20Be%20Considered%20%E2%80%9CCreative,experience%2C%20emotion%2C%20and%20inspiration>

"What Are the Advantages and Disadvantages of Artificial Intelligence (AI)?" *Tableau*, [www.tableau.com/data-insights/ai/advantages-](http://www.tableau.com/data-insights/ai/advantages-disadvantages#:~:text=if%20not%20prohibitive,-,Lack%20of%20emotion%20and%2)

disadvantages#:~:text=if%20not%20prohibitive,-,Lack%20of%20emotion%20and%2  
"4 Ways AI Is Changing Content Creation and Marketing As We Know It." *Spiceworks*, 8 May 2023, [www.spiceworks.com/marketing/ai-in-marketing/articles/leveraging-ai-](http://www.spiceworks.com/marketing/ai-in-marketing/articles/leveraging-ai-for-content-creation/#:~:text=AI%20plays%20a%20vital%20role,audience%20and%20increases)

for-content-creation/#:~:text=AI%20plays%20a%20vital%20role,audience%20and%20increases  
"European Parliament - File Not Found."  
[www.europarl.europa.eu/RegData/etudes/BRIE/2020/629220/IPOL\\_BRI\(2020\)629220](http://www.europarl.europa.eu/RegData/etudes/BRIE/2020/629220/IPOL_BRI(2020)629220)

0  
"Artificial Intelligence (AI) and the Creative Industry." *MentorCruise - Connecting Mentors & Mentees*, 30 Jan. 2023, <https://mentorcruise.com/blog/artificial-intelligence-ai-and-the-creative-industry-d9696/>

"Ethics of Artificial Intelligence." *UNESCO*, 3 Oct. 2022, [www.unesco.org/en/artificial-intelligence/recommendation-ethics](http://www.unesco.org/en/artificial-intelligence/recommendation-ethics)

"Artificial Intelligence and Intellectual Property Policy." *WIPO - World Intellectual Property Organization*, [www.wipo.int/about-ip/en/artificial\\_intelligence/policy.html](http://www.wipo.int/about-ip/en/artificial_intelligence/policy.html)

"The History of AI in Manufacturing." *Radical Automation: Radwell International's Blog*, [https://blog.radwell.com/the-history-of-ai-in-](https://blog.radwell.com/the-history-of-ai-in-manufacturing#:~:text=In%20the%20late%2070s%20manufacturing,AI%20until%20the%20late%201990s)

manufacturing#:~:text=In%20the%20late%2070s%20manufacturing,AI%20until%20the%20late%201990s.  
"Europeans Take a Major Step Toward Regulating A.I." *The New York Times - Breaking News, US News, World News and Videos*, 14 June 2023, [www.nytimes.com/2023/06/14/technology/europe-ai-regulation.html](http://www.nytimes.com/2023/06/14/technology/europe-ai-regulation.html)

"Europeans Take a Major Step Toward Regulating A.I." *The Washington Post*, 31 May 2023, [www.washingtonpost.com/business/2023/05/31/regulate-ai-here-s-what-that-might-mean-in-the-us/770b9208-ffd0-11ed-9eb0-6c94dcb16fcf\\_story.html](http://www.washingtonpost.com/business/2023/05/31/regulate-ai-here-s-what-that-might-mean-in-the-us/770b9208-ffd0-11ed-9eb0-6c94dcb16fcf_story.html)

"New AI Test Identifies COVID-19 Within One Hour in Emergency Departments." *University of Oxford*, [www.ox.ac.uk/news/science-blog/new-ai-test-identifies-covid-19-within-one-hour-emergency-departments](http://www.ox.ac.uk/news/science-blog/new-ai-test-identifies-covid-19-within-one-hour-emergency-departments).

"SoftBank Alum Unveils 'affectionate' Companion Robot in Japan." *U.S.*, 18 Dec. 2018, [www.reuters.com/article/us-japan-robot-groove-x-idUSKBN1OH0G1](http://www.reuters.com/article/us-japan-robot-groove-x-idUSKBN1OH0G1).

"China Tries to Balance State Control and State Support of AI." *Time*, 15 Aug. 2023, <https://time.com/6304831/china-ai-regulations/>

"China's AI Regulations and How They Get Made." *Carnegie Endowment for International Peace*, 10 July 2023, <https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117>

"Artificial Intelligence and Intellectual Property Policy." *WIPO - World Intellectual Property Organization*, [www.wipo.int/about-ip/en/artificial\\_intelligence/conversation.html](http://www.wipo.int/about-ip/en/artificial_intelligence/conversation.html).

"UNESCO Member States Adopt the First Ever Global Agreement on the Ethics of Artificial Intelligence." *UNESCO*, 20 Apr. 2023, <https://www.unesco.org/en/articles/unesco-member-states-adopt-first-ever-global-agreement-ethics-artificial-intelligence#:~:text=Press%20release-,UNESCO%20member%20states%20adopt%20the%20first%20ever%20global,the%20Ethics%20of%20Artificial%20Intelligence&text=Paris%2C%2025%20Nov%20%E2%80%93%20Audrey%20Azoulay,UNESCO%20at%20the%20General%20Conference>

"UNESCO: Governments Must Quickly Regulate Generative AI in Schools." *UNESCO*, 8 Sept. 2023, [www.unesco.org/en/articles/unesco-governments-must-quickly-regulate-generative-ai-schools#:~:text=Launch%20on%207%20September,AI%20in%20education%2C%20](http://www.unesco.org/en/articles/unesco-governments-must-quickly-regulate-generative-ai-schools#:~:text=Launch%20on%207%20September,AI%20in%20education%2C%20)

"Ethics of Artificial Intelligence." *UNESCO*, 3 Oct. 2022, [www.unesco.org/en/artificial-intelligence/recommendation-ethics](http://www.unesco.org/en/artificial-intelligence/recommendation-ethics)

"China's AI Regulations and How They Get Made." *Carnegie Endowment for International Peace*, 10 July 2023, <https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117>



## MULTIMEDIA RESOURCES

Takyar, Akash. "AI Use Cases & Applications Across Major Industries." *LeewayHertz - Software Development Company*, 11 Apr. 2023, [www.leewayhertz.com/ai-use-cases-and-applications/](http://www.leewayhertz.com/ai-use-cases-and-applications/)

SITNFlash. "The History of Artificial Intelligence." *Science in the News*, 23 Apr. 2020, <https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/>