

# AI, Intellectual Property Rights, and the EU AI Act: Charting A Course for the Future

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<b>ARTICLE INFO</b>	ABSTRACT
Received: 09-04- 2024 Accepted: 14-05- 2024	Disorder and disruption are the natural ways in which human society evolves as seen
	during the Industrial Revolution <sup>1</sup> and the Scientific Revolution <sup>2</sup> . The technological age is one such kind of disruptive evolutionary step, encompassing within it the inevitable existence of advanced artificial intelligence (AI) in the future. Would this superintelligence or advanced artificial intelligence's existence be a threat to humankind and our dignity? Artificial intelligence is being used in various parts of the social, economic, personal, and professional sectors. There is no doubt that with further technological advancement, artificial intelligence will get smarter and more able to make decisions. There will be
	autonomy of artificial intelligence in several fields like big data <sup>3</sup> and machine learning. Thus, it is important that we as a society work together to prevent any pitfalls due to this advancing artificial intelligence. Although it is said that artificial intelligence will never be able to master creative thinking coupled with intuition, the development of artificial intelligence in an unregulated, unmonitored autonomous system poses a threat to human dignity in the future, especially when it comes to autonomous artificial intelligence decision-making. In the contemporary world, artificial intelligence is still developing and requires human intervention. Traditional principles of law and ethics like fairness, transparency, contract, torts, intellectual property, trust, etc. are used to regulate unfair and unlawful abuse due to technology, but in time specialized regulations will be required. There is no doubt that we bear the responsibility to play the role of supervisors and managers of responsible, lawful, and ethical artificial intelligence systems at all stages of development and use of artificial intelligence. The use of AI has also evolved the process of intellectual property (IP) creation, management, and exploitation. Where on the one hand, AI is enabling the creation of new and diverse varieties of IP assets and a more efficient manner of their management, on the other hand, AI is also creating new challenges for inventors, businesses, and policymakers, especially the dilemma revolving around the complex legal and ethical issues of ownership, infringement, subject-matter eligibility, data protection and more. Law is very important for the proper functioning of society and must keep pace with the dynamic nature of society. It must be proactive but at the same time should not be too restrictive. Laws and regulations should not lag the growing artificial intelligence technology so much that any later attempts turn futile, nor should they run so ahead now that artificial intelligence technology gets limit

1The transformation from creating goods by hand to using machines.

2A period of drastic societal change led by scientific thoughts and inventions such as the telescope,

microscope, thermometer, and more.

3Big data refers to extremely large datasets that are too complex for traditional data-processing application software to deal with.

#### Introduction

Before answering whether artificial intelligence should be regulated it is pertinent to deliberate upon the meaning and significance of artificial intelligence.

Unfortunately, there is no single commonly accepted definition of artificial intelligence due to two the existing heterogeneity in the applicability/use of artificial intelligence. In other words, many sublets of artificial intelligence perform different functions like reasoning, vision, planning, etc., which is further increased using artificial intelligence in different fields like neuroscience, and cognitive sciences. Broadly speaking, artificial intelligence is understood in three ways, namely, as a scientific field, a technology or a method, and as concrete

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applications of various artificial intelligence systems having different technical features, purposes, and scopes. Nowadays, expert systems are being created as concrete applications of artificial intelligence that encode human specialist knowledge and use interference to solve real-world problems (for example- medical diagnosis). Further theoretical advances and refining have led to increased computational powers. This implies the need for more and more machine-readable data to be made available to artificial intelligence models as inputs for improving inductive skills rather than deductive skills (for example- language translation tools). Machine learning has also no doubt become a dominant paradigm in artificial intelligence.

Efforts has continuously been made to achieve artificial intelligence systems that are more comprehensive and would be able to maintain relations with the environment and exhibit situational awareness, or in short "intelligent AI". The artificial intelligence system is continuously evolving. Some are developed as agents that monitor the environment (like object recognition systems), or help people better manage their environment. Some function as part of socio-technical systems (e.g. lip-reading devices).

Article 3 of the Artificial Intelligence Act<sup>4</sup> defines "artificial intelligence systems" as software that is -

- 1. Developed with technique(s) and approaches like machine learning (supervised/unsupervised), deep learning, knowledge-based approach, inductive programming, deductive and inference engines, statistical approaches, search and optimization methods, etc., and,
- 2. Can generate outputs (like predictions, recommendations, and decisions influencing the surrounding environment) for a provided set of human-defined objectives.

<sup>4</sup> Regulation of the European Parliament and of the Council laying down harmonized rules on Artificial Intelligence (AI Act) and amending certain Union Legislative Acts (COM/2021/206 final)

There is no denying that if the learning capabilities of artificial intelligence become so sophisticated that they become more independent of human interference in terms of prior knowledge and human inputs, it will become very difficult to understand their outputs and actions.

Lastly, implementing artificial intelligence systems can lead to new and unpredictable errors for which existing rules and laws may not apply (such as a "catastrophic forgetting" event where the artificial intelligence system forgets all its previously learned information due to new information). artificial intelligence is a complex multifaceted system that poses several ethical, legal, and regulatory challenges. Risks such as unfair discrimination due to artificial intelligence are already in some instances coming up.<sup>5</sup>

Having a balanced approach to regulating artificial intelligence while at the same time not restricting its further development is required. It must be ensured that the artificial intelligence systems released for the public are safe and respectful towards the existing laws, especially the fundamental rights of humans. Legal certainty must be ensured to maintain investment and innovation in artificial intelligence. Governance and enforcement of existing laws must be enhanced and effectively used. Market fragmentation due to non-trustworthy, unsafe, unlawful artificial intelligence systems must be prevented.

It is important here to note the difference between an artificial intelligence making a decision, and an artificial intelligence executing a decision, and thus the rising difference between a piece of advice given by the artificial intelligence and a decision taken by artificial intelligence (such as advice on which stock to buy by an artificial intelligence). Understanding the difference between an AI making decisions, and an AI executing decisions forms a crucial prerequisite to understanding ownership of intellectual property created through AI systems.

It is often argued that decision-making by artificial intelligence has existed even before the modern artificial intelligence we see today (for example, the decision of vending machines to accept coins, and the decision of sensors in factories). What has changed, is not whether artificial intelligence

<sup>5</sup> Bias in Algorithms – Artificial Intelligence and Discrimination (Report by the European Union Agency for Fundamental Rights).

can make a decision, but rather the extent of possible outcomes, and the opacity of decision- making. It is also noteworthy to mention here that some decisions executed by artificial intelligence can also be overridden (for example- reviewing an automatically regenerated rejection letter). This principle is also enshrined under

## Article 22 of GDPR<sup>6</sup>.

As seen in the previous paragraphs, it is difficult to determine who should be liable for harm caused by the artificial intelligence (should it be the developer of artificial intelligence, the operator of artificial intelligence, the researcher who made the pattern algorithm, or the developer who trained the artificial intelligence).

If we try to apply tort law for the liability of artificial intelligence making, it is impractical that a wrongful decision by artificial intelligence would constitute or lead to a misstatement. Also, in countries like Germany, non-physical harm caused by artificial intelligence decisions, that led to pure economic loss does not allow recovery. But in other countries, like France, if the artificial intelligence is developed negligently, or lacks safety measures, the producer or developer may be held liable if the damage is certain and direct. But in any case, artificial intelligence's possibility of intentional harm seems very far-fetched.

On one hand, having a low standard of liability for artificial intelligence decision-making may provide an

incentive to businesses to use artificial intelligence rather than humans to make decisions, while on the other hand, having a high standard will mean that defenses like force majeure can't be used to keep liability in reasonable bounds.

It is often accepted that vicarious liability of employee/human, or organizational liability of the company entrusted with the artificial intelligence decision-making should be applied.

Another solution could be to approach this problem sector-wise owing to the diverse nature of artificial intelligence. This will allow formulation of specific and elaborate obligations for each sector, and also allow legislators to intervene area-wise where artificial intelligence has more risks.

<sup>6</sup>Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)

Lastly, a result-oriented approach is also beneficial, as it will be limited to specific results that must be accomplished by the laws and thus be less open or flexible and will also provide legal certainty.

#### Artificial Intelligence and Intellectual Property Rights

One of the most pertinent questions that arise in today's AI-forward developments, innovations, and creations is the question of personhood and human contributions that affect both the eligibility of the intellectual property created in terms of being protected under existing intellectual property rights and the ownership thereof.

Traditional IP jurisprudence, especially the justification of IP rights based on personality theory, supports that ownership must be assigned to human creators or inventors. However, reliance on traditional methods of thought and action is often rendered ineffective when society is undergoing a major shift in its dynamics. It is possible that in the near future majority of creations will either be AI-generated or use AI in some way making our traditional justifications for IP less prominent.

The current legal frameworks in most of the countries do not address or answer this issue. There are various legal and ethical hurdles that policymakers are navigating through in this regard. Legally analyzing the situation, the uncertainty in legal texts where words like human or man are used to define "owner or creator" of intellectual property poses as the first roadblock. The second roadblock relates to the issue of liability of an AI system even if it is granted ownership. How would the legal cases be fought, and who would pay damages if an AI system were declared to have infringed upon another person's work?

Ethically speaking, placing AI systems on the same pedestrian as mankind raises concerns regarding the extent of autonomy of AI. Do we then accept that AI has reached the level of consciousness wherein it can independently produce new inventions and creations similar to a human mind?

The use of AI in creating intellectual property evidently blurs the line between machine and human creativity, while at the same time, demeaning the value of independent human creativity and highlighting the inevitable role of AI in the creation process. Secondly, ownership of AI-generated intellectual property would then lie in the hands of those businesses and corporations that have the best of the best AI systems, leaving behind the smaller organizations starving for innovations in the same way. There is no doubt that by using AI systems, larger businesses would be faster and more accurate in developing novel and original intellectual property.

One solution to these inescapable legal and ethical issues would be to create new legal frameworks and ethical policies for AI-generated intellectual property and the use of AI in the creation of intellectual property respectively. The latter would ensure transparency and accountability, ensuring AI is utilized fairly. For example, there could be a new law stating that any human creator or inventor using AI must clearly state so, and the IP protection granted to such work would proportionately be for a lesser duration. Such a law would bring back people's trust in the superiority of the human mind as compared to AI, at least legally.

Similarly, patent applications should clearly state the contributions of AI and the human inventor. If there is no inventive human intervention and an AI system generates inventive output, it must be mentioned on the patent application, and the inventor should be the AI system, along with the natural person or legal company claiming ownership. Patent examination laws should also correspondingly become stricter, especially regarding the full disclosure of the nature, extent, and form of the AI system's inventive contribution.

Taking our attention to the copyright regime, apart from the economic justification of copyright, the others (namely personality theory and labor theory) are linked closely to human creators. Even if we were to exclude them while discussing AI-generated works, the cost of creating texts, images, films, music, and other such works is minimal once the AI system has been developed. Given the right commands, an AI system could produce a hundred paintings in a minute. It seems redundant to grant copyright protection to the output of such AI systems.

The case of the AI painting, *"Edmond de Belamy*" sold for \$432,000 (£337,000) in France was the first time an AI painting was auctioned.<sup>7</sup> The signature on the painting is the mathematical formula of the algorithms

used to create it. There is no denying that the human mind was utilized in some form in devising the "mathematical formula", there are doubts as to the ownership of the final output. This would mean that any person with sufficient "computer skills" to create the right formula would now also automatically be a painter, singer, or writer.

Therefore, not only do we see hurdles in grasping the relationship between AI and intellectual property rights, but it is also evident that each kind of intellectual property right must be dealt with separately in this regard. Laws for patents might not work for copyrights even if both the invention and the artistic work were created by an AI system.

### Artificial Intelligence and Data Protection

Data is the food for artificial intelligence. Dynamic artificial intelligence uses data in two ways, namely, as input for training, and for development. It continuously processes the data while in use. Data protection law is in itself a technology law as it aims to regulate potential risks that may arise due to the use of technology.

The GDPR is the leading data (personal) protection law but does not explicitly address artificial intelligence as a specific way of data processing. But it is clear to us that artificial intelligence is based on personal data and is used for processing personal data. It lays down many principles to protect personal data and regulate its processing such as lawfulness, transparency, fairness, data minimization, purpose limitation, accuracy, storage limitation, confidentiality, etc.

However, it is impossible to achieve under GDPR a broad and undifferentiated use of data as neither the principle of purpose limitation nor any legal grounds for compliant purposes are typically fulfilled. The broad and undetermined purposes of artificial intelligence restrict this.

<sup>7</sup>Arbiza Goenaga, M. (2020). A Critique of Contemporary Artificial Intelligence Art: Who is Edmond de Belamy?

AusArt, 8(1), 51-66. doi.org/10.1387/ausart.21490

It is also predicted that due to ethical grounds and GDPR rules, self-learning artificial intelligence systems may develop into "black boxes" due to difficulty in reproducing the results and comprehending decision modules. Data basis is prone to bias and discrimination, not only from the data itself but the algorithms used. GDPR is a starting point for setting standards for artificial intelligence and data protection, but more laws will follow, due to the lack of easily accessible control and fast inherent dynamics of artificial intelligence functioning.

#### Artificial Intelligence and Contract Negotiation and Performance

Intellectual property rights management and exploitation revolves around diverse kinds of contracts such as license agreements, assignment agreements, technology transfer agreements, franchise agreements, cross-licensing agreements and much more. This section deals with the role of AI in contract drafting particularly, the steps of negotiation and performance of a contract through AI.

Currently, artificial intelligence can't draft complex legal agreements and clauses especially relating to the mental states of the parties, but we can't overlook this possibility in the future.

Artificial intelligence can be used in the pre-contractual phase (analyzing prices), the conclusion of the formation of a contract (unilateral or bilateral use of artificial intelligence systems or software like machine-to-machine communications), and the contract performance using artificial intelligence systems. It is, however, immaterial if a human relied on an artificial intelligence device in making decisions to enter into contracts today owing to the objective theory of contract which focuses on the output of decision-making rather than the process of decision-making. The damage or loss caused due to non-performance of the contract due to faulty artificial intelligence systems may be subjected to strict liability or fault liability. However, it should be noted that malfunctioning of artificial intelligence systems does not fall under the force majeure clause, and it is even difficult to prove this accidental defect (though it is already assumed foreseeable in a legal sense). Also, the liability structure would be seriously impaired if it is shifted from the operator to the creator of artificial intelligence for non- performance of contract due to malfunction. But will the traditional contractual laws apply to contracts that were made without human intervention? In such contracts, there will be an absence of 'intention' which may question its validity.

However, on receiving messages that 'look' like they were sent by a human, we assume we are communicating with a human. If the message contains an offer, we might assume the intention of the sender is to enter into a contract. The risk of future artificial intelligence (although this is seen in many scam cases even today) being able to communicate exactly like humans is apparent. It may become indistinguishable, especially in e-commerce communications. There will be uncertainty regarding the origin behind these statements. The primary focus here would be 'what was the reasonable addressee made to believe'.

### **Regulations Concerning Artificial Intelligence in Europe**

Europe has proactively on many occasions released regulations in different forms concerning artificial intelligence.

In 2017, the European Economic and Social Committee released the "Opinion on Artificial Intelligence and

Society<sup>8</sup>" in which they identified eleven sectors where artificial intelligence will bring challenges, namely, ethics, safety, transparency and accountability, work, privacy, education, equality, and inclusiveness, laws, warfare, governance, and superintelligence. Each of these eleven areas has been discussed separately in the Opinion and EESC has provided recommendations and future plans.

In 2018, the work on the "Ethical Guidelines on Trustworthy Artificial Intelligence <sup>9</sup>" was begun by the Highlevel Expert Group on artificial intelligence established by the European Commission. It was finally presented in April 2019 and mentioned that lawfulness, ethics, and robustness are

<sup>8</sup>EESC Opinion on artificial intelligence and Society (2017/C 288/01) (eur-lex.europa.eu/legalcontent/EN/TXT/PDF/)

<sup>9</sup> digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai

the three main components every artificial intelligence system must meet throughout its life. The Guidelines also establish four ethical principles for artificial intelligence as enumerated below-

- **1. Respect for human autonomy** artificial intelligence systems should not in any way subordinate, manipulate, deceive, or coerce humans. They should be designed to complement and empower us socially, culturally, and cognitively.
- 2. **Prevention of harm-** artificial intelligence systems should never cause harm to humans and must protect human dignity, and physical and mental integrity.
- **3. Fairness-** There must be fairness in the development and use of artificial intelligence systems including equal access, and non-discrimination.
- **4. Explicability-** artificial intelligence systems must be transparent, and their capabilities and abilities must be properly communicated and explained to those being affected as much spossible.

Lastly, the Guidelines state that technical and non-technical methods must be employed to ensure that the artificial intelligence system follows seven requirements for being "trustworthy artificial intelligence", which are, technical robustness and safety, human agency and oversight, privacy and data governance, accountability, environmental and societal well-being, transparency, and last but not the least diversity, non-discrimination, and fairness.

In 2020, the CAHAI (Council of Europe Ad Hoc Committee on Artificial Intelligence) published the "Towards

Regulation of Artificial Intelligence Systems <sup>10</sup>". It is a very comprehensive piece of literature talking on various aspects of artificial intelligence, including its impact on human rights, the Rule of Law, and democracy. It also talks about the ethical principles of transparency, solidarity, dignity, justice and fairness, non-maleficence, privacy, responsibility, etc. that must be incorporated into the artificial intelligence systems.

#### Artificial Intelligence Act

10 edoc.coe.int/en/artificial-intelligence/9656-towards-regulation-of-ai-systems.html

On 21st May 2024, the Council of the European Union approved the AI Act.<sup>11</sup> The Act is aimed at addressing the risks associated with the use of artificial intelligence technology, especially in developing an ecosystem of trust by providing a legal framework for trustworthy artificial intelligence. It is based on the fundamental rights and values of the EU and aims to give humans the confidence to embrace artificial intelligence. It follows a balanced and proportional horizontal regulatory approach that is limited to the minimum necessary requirements to address the risks and problems linked to artificial intelligence, without unduly constraining technological development or disproportionately increasing the cost of placing artificial intelligence solutions on the market.

A defined list of prohibited AI has been given based on a risk-based approach, that is, artificial intelligence that creates unacceptable risk, high risk, or low risk. The list of prohibited artificial intelligence practices includes those that may cause psychological harm, physical or mental disorders, exploitation of vulnerabilities of specific groups of humans, biased classification of persons causing detriment, etc. It is also expressly prohibited to use "real-time" remote biometric identification systems in public for law enforcement (unless it is necessary for national security or other reasons).

Intellectual property rights violations have been addressed as high-risk. Article 53 of the Act mandates providers of general-purpose AI models to observe and protect intellectual property rights. An artificial intelligence system shall be considered high risk if-

- 1. It is intended to be used as a product, or part of the safety component of a product relating to watercraft, lifts, personal protective equipment, etc., and
- 2. It needs to undergo third-party conformity assessment to place it in the market

<sup>11</sup> Regulation of the European Parliament and the Council laying down harmonized rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139

and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)

Additionally, a list has been given of high-risk artificial intelligence systems such as those used for biometric identification and categorization of natural persons, management and operation of critical infrastructure, or education and vocational training assessment.

The Act even set out proportionate restrictions on some human rights like freedom to conduct business and freedom of art and science to safeguard public interests like health, consumer protection, etc. while using and developing high-risk artificial intelligence technology. A new model of the legislative framework is also provided using internal control checks by the providers to implement this Act. There are also transparency obligations set out for artificial intelligence systems that interact with humans, are used to detect emotions or determine association with (social) categories based on biometric data or generate or manipulate content ('deep fakes'). The Act also specifies the establishment of a European Artificial Intelligence Board, which will be composed of representatives from the Member States and the Commission, and will function to facilitate smooth, effective, and harmonized implementation of this regulation.

#### Conclusion

There is definitely a need to regulate artificial intelligence in today's society, to provide legal boundaries regarding the liability of artificial intelligence, and to permit the development and use of artificial intelligence. Newer artificial intelligence models are increasingly entering the markets that are capable of learning, making their outcomes unpredictable. In the case of unrestricted liability for artificial intelligence making, there will be stagnation in the development of software (especially open-source software). In the absence of any third-party accountability, organizations will not have incentives to improve artificial intelligence world.

Artificial intelligence development does not reach out and do things, rather it reacts to existing normative concepts and integrates them actively.

We have many regulations, laws, reports, guidelines, etc. on artificial intelligence that focus on different aspects and impact of artificial intelligence such as the Ethical Aspects of Artificial Intelligence, Robotics, and Related Technologies<sup>12</sup>, the civil liability regime for artificial

 $^{12}$  European Parliament resolution of 20 October 2020 on a framework of ethical aspects of artificial intelligence, robotics and related technologies, 2020/2012(INL)

intelligence<sup>13</sup>, the resolution on IPR for development of artificial intelligence Technologies<sup>14</sup>, etc. All these highlight the fact that artificial intelligence needs to be regulated. I have dealt with limited concepts here and there are many more areas of our lives where artificial intelligence play a vital role and affects us.

The regulation of future, unknown technological developments is impossible, but a plausible regulatory framework must be envisaged to regulate perceived threats, applying the precautionary principal approach. Instead of waiting until artificial intelligence poses a threat endangering the society, it must be guided now immediately. An important lament of any artificial intelligence regulation will be ex-ante (such as privacy-by-design or security-by-design principles).

The IP and data protection laws of the world were developed long before AI came in the picture. There may be clauses such as research exemptions in the various IP laws like patents or copyrights, but they are unclear if and to what extent the exemptions are applicable to the use of personal data and IP-protected content when it is being used for the development and testing of AI systems.

Whether or not the existing laws are sufficient, is an open question in my opinion, that can only be answered with time. But for now, I believe we are going in the right direction when it comes to regulating artificial intelligence, and we will need more specific regulations in the future targeting specific threats due to artificial intelligence.

<sup>13</sup>European Parliament resolution of 20 October 2020 on a civil liability regime for artificial intelligence, 2020/2014(INL).

<sup>14</sup> European Parliament resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies, 2020/2015(INI).

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