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HIGH-RISK AI SYSTEMS IN THE LIGHT OF THE REGULATION (EU) 2024/1689 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL FROM THE PERSPECTIVE OF THE POTENTIAL HARMFUL IMPACT ON PERSONALITY RIGHTS

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Abstract

This article aims to analyze artificial intelligence systems, classified by the newly adopted EU AI ACT as high-risk, with a focus on their potential to infringe on personal rights. The growing role of artificial intelligence seems to be increasingly shaping the times we live in, and its influence is becoming increasingly evident, both at the individual and societal levels. Its applications are increasingly varied, as are the users of these tools, and access to them is becoming easier. The initial resistance to implementing systems based on various forms of artificial intelligence seems to be diminishing as the benefits of using these systems become increasingly apparent, often relieving individuals of truly burdensome tasks.

The use of artificial intelligence has become so widespread that it is difficult to find an area that has not yet been "contaminated" by the influence of AI.In this general context, one of the main issues that should concern us is the risks generated by the use of these systems, as well as the ways in which we can limit, if not eliminate, their potentially harmful effects.

At European level, an extremely important step in this direction was taken with the adoption of the REGULATION (EU) 2024/1689 OF THE EUROPEAN

PARLIAMENT AND OF THE COUNCIL of 13 June 2024 laying down harmonised 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), as we will refer to throughout the paper, regulation which, among other things, introduces a classification of artificial intelligence systems according to the degree of risk they may pose to the fundamental rights of individuals, providing a series of safeguards to reduce their harmful effects on these rights. The article will deal mainly with the high-risk systems and the mechanisms for reducing their harmful potential.

Key words: *AI systems, high-risk, impact, fundamental righs, personality rights.*

INTRODUCTION

This article is based mainly on the new adopted REGULATION (EU) 2024/1689 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2024 laying down harmonised 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, emphasizing the high-risk AI systems referred to within the EU AI ACT and their potential harmful effect on fundamental/personality rights.

The recently introduced classification of AI systems according to their degree of risk into minimal, limited, high and unacceptable risk systems is an essential element in the analysis of these systems and the implications they generate.

The paper begins with an overview of the regulation, then addresses the concept of AI and AI systems, focusing subsequently on the main categories of systems, particularly those with high risk.

I. THE ADOPTION OF THE EU AI ACT

A major step forward in the regulation of Artificial Intelligence at European level was the adoption of REGULATION (EU) 2024/1689 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2024 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), whose purpose established within its preamble is "to improve the functioning of the internal market by laying down a uniform legal framework in particular for the development, the placing on the market, the putting into service and the use of artificial intelligence systems (AI systems) in the Union, in accordance with Union values, to promote the uptake of human centric and trustworthy artificial intelligence (AI) while ensuring a high

level of protection of health, safety, fundamental rights as enshrined in the Charter of Fundamental Rights of the European Union (the 'Charter'), including democracy, the rule of law and environmental protection, to protect against the harmful effects of AI systems in the Union, and to support innovation."

Therefore, the Regulation establishes for the first time at the level of the European Union a comprehensive and uniform legal framework in terms of Artificial Intelligence, following the Union value and pursuing the protection of health, safety and fundamental rights in accordance with the Charter of Fundamental Rights of the European Union.

At the same time, the regulation creates some legal instruments to protect against potential harmful effects of AI systems, and it aims to promote innovation.

The proposal of the Regulation was published by the European Commission in 2021 and the final version, after the changes made by the Council and the Parliament, was published in the Official Journal of the European Union on 12 July 2024 and entered into force one month later, in August 2024.

Most of its provisions did not apply from the moment the EU AI ACT entered into force, so there is a timetable setting out when the various provisions will apply, 2027 being the most likely year in which it will become fully applicable.

II. THE NOTION OF ARTIFICIAL INTELLIGENCE (SYSTEM)

The concept of artificial intelligence has been given various meanings over time, given its constant evolution. We cannot refer to a generally accepted, comprehensive definition in the present day, given its continuous technological changes. As stated in the doctrine, the concept "is ubiquitous in the public discourse, yet rarely defined precisely." (Ronge, R., Maier, M., & Rathgeber, B. (2025).

Simultaneously, the doctrine draws attention to the risk of "anthropomorphizing artificial intelligence, which may arise in particular from its very definition." (Ronge, R., Maier, M., & Rathgeber, B. (2025).

In case of AI chatbots, their "anthropomorphic features may invite users to disclose more information with these systems than they would otherwise, especially when users interact with chatbots in relationship-like ways" (Register, C., Khan, M.A., Giubilini, A. et al. (2025), which may have a huge impact on the right to privacy and its values, like "autonomy, the value of forming and maintaining relationships, security from harm" (Register, C., Khan, M.A., Giubilini, A. et al. (2025), etc.

The White Paper on Artificial Intelligence, adopted by the European Commission in 2020, refers to AI as "a collection of technologies that combine data, algorithms and computing power."

The main purpose of the above-mentioned White Paper was to set out policy options on how to achieve the two objectives of promoting the uptake of AI and addressing the risks which are linked to the use of the new technology.

Regarding the meaning of numerous terms used in the field of AI, the EU AI Act clarifies their meaning by providing explicit definitions. Among the terms defined by the regulation, we can mention: "AI system", "risk", "provider", "operator", "deployer", etc.

In the context of our analysis, it is appropriate to highlight the definition given to the AI system, described by the European Regulation as a "machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments" (Art. 3, par. 1) The European legislator thus describes the AI system by referring to its characteristics of autonomy and adaptability, as well as its capability to generate predictions, content, recommendations or decisions.

In the light of the analyzed Regulation, the risk is defined as "the combination of the probability of an occurrence of harm and the severity of that harm" (Art. 3, par. 2).

III. AI AS A FAST FAMILY OF TECHNOLOGIES

AI is referred to, in the Preamble of the EU AI ACT, as a "fast evolving family of technologies that contributes to a wide array of economic, environmental and societal benefits across the entire spectrum of industries and social activities."

It is becoming increasingly clear that AI is impacting the entire spectrum of social activities, becoming a constant reality of everyday life. The advantages resulting from using AI are undeniable in various domains like healthcare, education, public services, security, justice, etc. where it helps in improving predictions, optimising operations or allocation resources.

However, a deeper analysis of the matter cannot be limited to the advantages derived from the use of these technologies but must also address and identify solutions for the risks, sometimes major, that often accompany the use of these systems.

As emphasized in doctrine, "while these technologies present significant opportunities for enhancing security and public safety, they also raise profound concerns about their impact on fundamental human rights, specifically the delicate balance between security and privacy." (Singh, T. (2024)

As for the ability to proof human rights harms it "is increasingly moving from individual hands to organizations that possess the means and resources to look into the big picture, by stepping back and showing a statistical demonstration

of bias through a comparison of datasets (that are either real or projected).” (Teo, S. (2025).

The need to find solutions to limit these risks is urgent to avoid a situation where the harmful effects resulting from the use of AI technologies outweigh the benefits generated. The regulation draws attention to the potential of AI not only to generate risks but also to cause material or immaterial (physical, psychological, societal, economic) harm to public interests and fundamental rights.

In this context, the creation of a regulatory framework at European level, that provides the necessary legal guarantees to protect the Union values and the fundamental rights and freedoms when faced with AI systems was essential to build trust.

IV. CLASSIFICATION ON AI SYSTEMS BASED ON THE RISK THEY POSE ON FUNDAMENTAL RIGHTS

An essential aspect introduced by the EU AI ACT is the classification of AI systems according to their degree of risk, with four categories being identified, respectively unacceptable risk systems; high-risk systems; limited risk systems and minimal risk systems.

In the following, we will briefly refer to the unacceptable risk systems and then focus on those that present a high degree of risk, as regulated by the EU AI ACT.

According to Art. 5 of the EU AI ACT, among the prohibited AI practices are the placing on the market, the putting into service or the use of the following AI systems: that deploys subliminal techniques beyond a person’s consciousness or purposefully manipulative or deceptive techniques; that exploits any of the vulnerabilities of a natural person or a specific group of persons due to their age, disability or a specific social or economic situation; that are used for the evaluation or classification of natural persons or groups of persons over a certain period of time based on their social behavior; that are used for making risk assessments of natural persons in order to assess or predict the risk of a natural person committing a criminal offence; that create or expand facial recognition databases through the untargeted scraping of facial images from the internet or CCTV footage.

Considering their undeniable harmful effect on human dignity, freedom, equality, democracy, the rule of law and fundamental right, their use within the European Union is prohibited.

The high-risk systems, on the other hand, although they put an important amount of risk on the values and freedoms mentioned before, are forbidden, but their place into market, put into service or use are strictly regulated to limit their harmful potential. According to the EU Regulation, these kinds of systems,

"should only be placed on the Union market, put into service or used if they comply with certain mandatory requirements. Those requirements should ensure that high-risk AI systems available in the Union or whose output is otherwise used in the Union do not pose unacceptable risks to important Union public interests as recognized and protected by Union law. AI systems identified as high-risk should be limited to those that have a significant harmful impact on the health, safety and fundamental rights of persons in the Union, and such limitation should minimize any potential restriction to international trade."

According to Art. 6, paragraph 1 of the EU AI ACT, an AI system is considered to be high-risk when the following conditions are both fulfilled "(a) the AI system is intended to be used as a safety component of a product, or the AI system is itself a product, covered by the Union harmonization legislation listed in Annex I; (b) the product whose safety component pursuant to point (a) is the AI system, or the AI system itself as a product, is required to undergo a third-party conformity assessment, with a view to the placing on the market or the putting into service of that product pursuant to the Union harmonization legislation listed in Annex I."

At the same time, the EU Regulation classifies as high-risk the systems referred to in its Annex III, respectively AI systems listed in the following areas: Biometrics, Critical infrastructure, Education and vocational training, Employment, workers management and access to self-employment; Access to and enjoyment of essential private services and essential public services and benefits; Law enforcement; Migration, asylum and border control management; Administration of justice and democratic processes.

If one of the above-mentioned AI systems does not pose a significant risk of harm to the health, safety or fundamental rights of natural persons, including by not materially influencing the outcome of decision making, it will not be considered as high risk.

V. HIGH-RISK SYSTEMS USED IN EDUCATION AND VOCATIONAL TRAINING

AI is considered to have "the potential to revolutionize education by transforming teaching and learning processes" (Krishnamoorthy, R., Srivastava, M. & Khanna, (2025), "through its ability to facilitate personalized learning experiences" (López-Pernas, S., Oliveira, E., Song, Y., Saqr, M. (2026). p. 17), There are also "critical ethical concerns, particularly around fairness (and) bias" (Saarela, M., Gunasekara, S., Karimov, A. (2025), p. 36).

According to the Annex III of the EU AI Regulation, the following AI systems used in education and vocational training are of high risk:

- AI systems intended to be used to determine access or admission or to assign natural persons to educational and vocational training institutions at all levels.

● AI systems intended to be used to evaluate learning outcomes, including when those outcomes are used to steer the learning process of natural persons in educational and vocational training institutions at all levels.

● AI systems intended to be used for the purpose of assessing the appropriate level of education that an individual will receive or will be able to access, in the context of or within educational and vocational training institutions at all levels.

● AI systems intended to be used for monitoring and detecting prohibited behavior of students during tests in the context of or within educational and vocational training institutions at all levels.

The main reason for classifying those systems in the category of high risk is linked to their role in influencing the educational and professional development of a person, and implicitly to influence their ability to secure a livelihood.

There is also an associated risk of perpetuating patterns of racial, ethnicity, age, gender or other types of discrimination, using those systems.

Research studies that have been conducted on the subject also draw attention to the privacy concerns deriving from the use of AI systems in education, pointing out that the data collected by AI-driven educational platforms "is often used beyond its educational purpose, including for targeted advertising or sold to third parties, raising ethical concerns about transparency and consent."(Singh, A.K., Kiriti, M.K., Singh, H. et al. (2025), p. 1434).

At the same time "profiling by AI systems can perpetuate biases, unfairly influencing educational opportunities or outcomes. Security risks are another concern, as data breaches could expose sensitive student information. The use of invasive monitoring tools, like facial recognition or keystroke analysis, can create a sense of surveillance, impacting student trust and autonomy." (Singh, A.K., Kiriti, M.K., Singh, H. et al. (2025), p. 1434).

VI. HIGH-RISK SYSTEMS USED IN EMPLOYMENT, WORKER'S MANAGEMENT AND ACCESS TO SELF-EMPLOYMENT

In the field of employment, worker's management and access to self-employment, the following systems are high-risk, according to Annex III of the EU AI ACT:

● AI systems intended to be used for the recruitment or selection of natural persons, in particular to place targeted job advertisements, to analyze and filter job applications, and to evaluate candidates;

● AI systems intended to be used to make decisions affecting terms of work-related relationships, the promotion or termination of work-related contractual relationships, to allocate tasks based on individual behavior or personal traits or

characteristics or to monitor and evaluate the performance and behaviour of persons in such relationships.

As in the case of systems used in education and vocational training, the AI systems used in employment, worker's management and access to self-employment create the risk for perpetuating historical patterns of gender, age, racial or other kinf of discrimination. At the same time, those systems are likely to have a decisive impact on worker's future career prospects and their livelihood.

CONCLUSION

Given the extremely rapid pace of technological progress in AI, the need for regulation at European level was undeniable. In this context the adoption of the REGULATION (EU) 2024/1689 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2024 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 represented a huge step forward in this complex domain. The introduction of this regulation was all the more necessary as it introduces a classification of Artificial Intelligence systems according to the degree of risk they pose on fundamental (personality) rights, while also establishing clear rules for placing them on the market, putting them into service or the use of high-risk systems. All of these are emerging as guarantees for the protection of individual rights.

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