

Human Rights Protection in Algorithmic Society

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ABSTRACT

The article, marking the 75th anniversary of the European Convention on Human Rights and 25 years of the EU Charter of Fundamental Rights, emphasizes the growing challenges human rights face in the age of artificial intelligence. Europe's traditional three-pillar system of human rights protection (national, EU, and Council of Europe) was built in an analog era, whereas today's society is increasingly becoming algorithmic, with artificial intelligence co-constructing social reality. The article identifies two major paradigm shifts defining the algorithmic society: the loss of human monopoly over construction of social reality and the dominance of private actors over public institutions. In response, the Council of Europe adopted the first legally binding international Framework Convention on Artificial Intelligence, setting, inter alia, minimum standards for safeguarding human dignity, equality, and privacy. Complementing this, the EU's Artificial Intelligence Act follows a risk-based approach, more heavily regulating artificial intelligence systems that importantly impact fundamental rights. While neither legal instrument grants new individual rights, they serve as preventive regulatory frameworks. The article concludes that

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courts will soon need to interpret human rights in light of algorithmic impacts and may themselves use artificial intelligence in decision-making. This evolution demands judicial adaptation and a comprehensive reform of legal education to integrate law with digital technologies.

Keywords: AI, Constitutionalism, Algorithmic society, Human rights protection, EU, Council of Europe

Zaščita človekovih pravic v algoritemski družbi

POVZETEK

Prispevek ob 75. obletnici Evropske konvencije o človekovih pravicah in 25. obletnici Listine EU poudarja, da človekove pravice v dobi umetne inteligence doživljajo nove izzive. Tradicionalni tristebni evropski sistem varstva človekovih pravic (nacionalni, EU in Svet Evrope) je bil zasnovan v analognem svetu, današnja družba pa postaja algoritemska, v kateri umetno inteligenco sooblikuje realnost. Prispevek opozarja na izgubo človekovega monopola nad družbeno resničnostjo in na premoč zasebnega sektorja pred javnimi institucijami. Svet Evrope se je odzval s prvim pravno zavezujočim mednarodnim dokumentom – Okvirno konvencijo o umetni inteligenci, ki, med drugim, določa minimalne standarde za zaščito človekovih pravic, dostojanstva, enakopravnosti in zasebnosti v algoritemski družbi. EU je sprejela Akt o umetni inteligenci, ki sledi pristopu uravnavanja tveganja in določa strožjo regulacijo za sisteme z visokim tveganjem, zlasti tiste, ki vplivajo na temeljne pravice. Čeprav ta dva dokumenta ne uvajata novih pravic, predstavljata pomemben preventivni pravni okvir. Prispevek zaključí, da se bodo sodišča morala prilagoditi algoritemski družbi in sprejeti sodobne razlage človekovih pravic, kar bo zahtevalo tudi reformo pravnega izobraževanja.

Ključne besede: UI, ustavnost, algoritemska družba, človekove pravice, EU, Svet Evrope

1. Introduction

On November 4, 1950, in Rome, the member states of the Council of Europe adopted the European Convention on Human Rights and Fundamental Freedoms (ECHR). Over the following 75 years, it has served as the foundation for the development of the most sophisticated international legal system for the protection of human rights. The ECHR exceeded the expectations of its founding members, who at the time acted primarily in the context of the rising Cold War, seeking to establish a value-based symbolic counterbalance to the Soviet Union (Madsen, 2018). Especially after the establishment of the European Court of Human Rights (ECtHR), which replaced the earlier Commission, the original international legal nature of the Convention's human rights protection gradually became constitutionalized (Stone Sweet, 2009). As a result, a European constitutional space in the field of human rights and fundamental freedoms emerged, within which the ECtHR, for all of its current 46 member states, establishes and ensures the minimum common European standards for the protection of human rights and fundamental freedoms.

However, the European constitutional space does not rest on the ECHR alone. Its second, initially predominantly economic pillar, is represented by the European Union. As is well known, the EU, in fact the then European Communities were initially not concerned with human rights protection (Avbelj, 2018). Due to their limited material scope and narrow economic objectives, the three European Communities were not expected to engage in human rights violations. There was thus no perceived functional demand for human rights norms to be included in the founding Treaties. Even more importantly, human rights were already

generously protected on the national level as well as by the Council of Europe whose establishment preceded the EU (*ibid.*, 9).

Nevertheless, the lack of human rights protection in EU law soon revealed a deep constitutional problem that went right to the heart of the basic principles of EU law, which forced the Court of Justice of the EU (ECJ) to establish autonomous standards of human rights protection in the Union as part and parcel of general principles of EU law (*ibid.*, 10). However, even as these unwritten standards of EU human rights protection quelled the concerns of the national Constitutional courts, the civic and scholarly pressure nevertheless continued, striving for the EU's own catalogue of fundamental rights. This was, eventually, solemnly declared in 2000 as the EU Charter of fundamental rights whose content became legally binding in 2009 by way of adoption of the Treaty of Lisbon. The latter, furthermore, requires the EU to accede to the ECHR (TEU, Art. 6(2)), which is a step that the EU has, despite two attempts, still not successfully taken (Peers, 2015).

The European constitutional space, thus, nowadays rests on three pillars of human rights protection: the national system of human rights protection grounded in domestic constitutions; the supranational system consisting of written and unwritten standards of protection of human rights under EU law; and the international system represented by the Council of Europe and its ECHR. However, as we have underlined in our previous work, the jury is still out as to whether this multilayered protection of human rights also offers better protection of human rights for the common people in practice, or it rather contributes more to human rights inflation (Avbelj, 2018).

Be that as it may, the fact remains that there has always existed a discrepancy between human rights on books and human rights in action. This must be acknowledged even in this volume, as we are celebrating the 75th anniversary of

the adoption of the ECHR and the 25th anniversary of the symbolic inauguration of the Charter. However, what this contribution would like to stress is that the challenges of the actual, effective protection of human rights in Europe will likely only increase in the future, not because of the conventional reasons that have traditionally pestered human rights protection in practice, but due to unprecedented technological developments.

As we will demonstrate in what follows, the process of digitalization and in particular the emergence and growth of artificial intelligence (AI), has delivered a paradigmatic change in our societies which already function, and will increasingly continue to do so in the future, as algorithmic societies. This begs a question whether the existing European three-layered system of human rights protection, which was developed in deeply analog times at the peak of political modernity, is still sufficiently, let alone well, equipped to perform the same role in the late-post modernity where AI-based machines, driven by algorithms, have been taking over an increasing amount of tasks, having a wide and growing influence practically on all corners of our social and private lives.

To respond to this query, the paper is going to proceed in three steps. After this introduction, we will examine what makes the latest AI technological revolution qualitatively different from everything that humanity has experienced in the past. Having thus described the contours of an algorithmic society that is emerging out of AI revolution, the paper will next examine the law-making attempts in the European constitutional space aimed at countering the negative implications of AI for human rights protection and, finally, assess what steps might be taken in the future to at least preserve the existing standards of human rights protection in the emerging algorithmic society.

2. AI in Algorithmic Society

It is indisputable that we are currently living through the times of AI-hype.¹ While humanity has long toyed with an idea of intelligence that is separate from, and even superior to, human intelligence, the word may be indeed becoming flesh now thanks to the emergence of generative AI and its large language models (LLMs). The roots of the present technological breakthrough, however, date back to the 1950s. A groundbreaking moment was Alan Turing’s article exploring whether machines can think (Turing, 1950). It was there that he also developed the imitation game, known as the Turing Test, as a measure of a machine’s (lack of) intelligence. The term “artificial intelligence,” supported by machine learning, was itself first used at the famous Dartmouth Conference in 1956. Since then AI has gone through several phases of major breakthroughs (so-called “AI springs”), followed by periods of stagnation and disappointment (“AI winters”) (Delipetrev, 2020). Among the spring periods—driven especially by increasing computational power—are the development of the theoretical foundations of algorithms in the 1950s; the practical development of symbolic algorithms and expert systems in the 1970s; and the emergence of machine learning, particularly deep learning, between 1990 and 2010 (ibid.).

Deep learning tries to mimic the functioning of the human brain, with neural networks learning through training on large amounts of data. These networks autonomously build weighted connections between neurons based on the input data, from which they automatically extract important features and produce an outcome. The rise of the internet—with its virtually infinite data resources—enabled, in the mid-2010s, a shift from previously supervised deep learning to autonomous and reinforcement learning based on data from across the entire internet (Suleyman, 2024, 59). This, to-

¹This section draws on Avbelj (2025).

gether with transformer technology, led to the new wave of AI spring, marked by development of large language models (LLMs) and content generative chatbots which have won over the hearts and minds of the general public. Simultaneously, the economy has anticipated huge added value from the new AI driven technologies, such as facial and speech recognition, natural language generation, sentiment analysis and others, which sparked enormous investments in select private corporations that could soon surpass one trillion dollars (Karjian, 2025).

In theory the development of AI has been broken down into three categories: weak or narrow AI, strong or general AI, and superintelligent AI (Delipetrev, 2020, p. 5). At the current stage of development, the two most used forms of AI: the generative and predictive AI still qualify as weak AI. This type of AI can help increase our productivity in specialized areas, but remains unable to generalize and reapply the acquired knowledge across different domains, let alone all of them (*ibid.*, p. 6). Once this is possible, we will see the emergence of the general or strong AI (Togelius, 2024, p. 87), possessing the capacity “of performing a wide range of tasks, solving a broad spectrum of problems, and being significantly more capable than the AI systems we have today.” (Delipetrev, 2020, p. 3) Finally, the superintelligent AI would “greatly exceed human cognitive capabilities in practically all areas of interest” (*ibid.*, p. 6), but it is likely to remain beyond the technological reach of humanity for the foreseeable future.

While AI is still in its early stage of development, it already represents a qualitatively different kind of technology, which is unlike anything else the humanity has developed so far. All technological progress up to the emergence of AI equipped humanity with new tools to (re)shape the physical and social world alike, but its own character as well. With these tools, humans became more mobile, dynamic, efficient, and—especially through telecommunications and

information technologies—better informed and more closely connected (Harari, 2024).

Still, all technology developed up until now has been passive in nature. It has consisted of tools developed to be used by humans. Without human intervention or influence, these tools had no capability or agency—no autonomous action independent of at least indirect human physical or digital input. The only autonomous agent was the human being, who therefore also held the exclusive power over the social construction of reality, over which humans have had a monopoly (*ibid.*). The entire social reality was created by humans, based on their mental constructs and processes of institutionalization, which were initiated to materialize such imagined social concepts (Luckmann, Berger, 1966).

With the emergence of AI as we know it today, this is beginning to change. Prompted by a user generative AI can produce new texts, images, ideas, and representations based on pre-existing content—things that had not existed before. Through automatic, unsupervised, and even reinforced deep learning, it creates new, self-derived knowledge in increasingly difficult-to-explain black box ways (Brevini, Pasquale, 2020), gradually becoming increasingly independent from humans who struggle to remain in the loop (Zhang, Merono Penuela, Simper, 2025). Thus, humans have lost their monopoly over the process of the social construction of reality (Avbelj, 2024). Nor are they any longer the only agents in a socially constructed environment. AI is increasingly taking on the contours of its own agency—particularly in the field of information and communication technologies, which have the greatest influence on societal functioning and its transformation (Simoncini, Longo, 2021).

Information and communication technologies transmit information that enable knowledge, from which connections among people are created (Harari, 2024). These connections range from familial, friendly, and epistemological to state and supranational political communities. Without

the networks of information in which we are embedded, neither humans as *homo politicus* nor anything social can exist (ibid). Information and communication technologies decisively shape what and how we think, thereby determining the very identity of individuals and the society in which we live. In conditions where humans held a monopoly over agency and the construction of social reality, people and political communities were the masters of their own identities—something that, with the arrival of AI, is no longer the case (Avbelj, 2024).

With computers and other machines powered by AI, we have introduced non-organic actors among ourselves—actors that, alongside humans, generate our mental, linguistic, and ultimately institutional frameworks. In this way, we have stepped into an entirely new type of society: the algorithmic society. This describes a state of public and private affairs in which human behaviour and action are guided by AI driven by algorithms. In contrast to the world we have known so far, in the algorithmic society, our reality, interpersonal relationships, expectations, and ways of thinking and acting are no longer guided solely by people—but also by digital devices (ibid.).

Furthermore, in algorithmic society, beside the loss of human monopoly over the social construction of reality, another paradigmatic change occurred. This shift took place along the public–private axis, with the private gaining significant strength at the expense of the public. Not only is AI development continuing under conditions of minimal or even non-existent regulation—leaving the field of action for large global corporations virtually intact—but massive investments and equally high expectations from public authorities about the breakthroughs these technologies might bring, along with the global race to be the first to develop and control new technologies, are shifting the balance of power markedly in favour of private economic interests at the expense of public institutions (Teubner, Golia, 2023). Yet only the lat-

ter are democratically accountable and committed to serving the common good whose content and protection should be ensured in a constitutional democracy. These two paradigm shifts—taken together—have thus completely transformed the very foundations of modern constitutionalism (Avbelj, 2024), which means that also human rights protection, as its constitutive part, cannot have escaped unaffected.

3. Human Rights in Algorithmic Society

In our previous work, we have developed a theoretical framework of human rights which are constitutive of constitutional democracy. Without these rights, constitutional democracy as “a paradoxical union of two contradictory principles” (Habermas, 2001): majoritarian democracy and anti-majoritarian rule of law, cannot exist. Simultaneously, constitutional democracy as a system of governance exists precisely to protect these very rights. They include: human dignity, freedom of conscience and religion, freedom of speech, freedom of education, freedom of assembly and the right to a fair and speedy trial. As in algorithmic society these rights face new technology-induced challenges, they also require a revision of the existing mechanisms for their protection. In other words, the human right protection under the ECHR and the EU Charter will need to evolve, and both legal instruments might even need to be supplemented by additional instruments of human rights protection.

This initially theoretical concern has over the course of the last five years already borne practical fruit. As the regulation of AI has been in the making, admittedly taking different shapes in different parts of the globe (Walter, 2024) its impact on human rights protection has increasingly been taken into consideration. Most notably, the Council of Europe and other signatories, including the EU, the USA, Canada and Japan concluded the Framework Convention on Artificial Intelligence: “the first-ever international legally binding treaty

in this field.” (Council of Europe). The subjects of the Convention’s regulation, its object and purpose and in particular the fundamental principles it contains all demonstrate that the Convention offers a timely and apt response to the challenges of algorithmic society.

To begin with, in line with the algorithmic society’s shift from the public to the private sources of power and authority, the Convention, unlike the traditional international law treaties, is addressed not only to the public authorities, but also to the private actors when these act either on behalf of the public authorities or exclusively on their own behalf (Convention, Art. 3). The broad personal scope of the Convention is complemented by its wide material scope. The Convention regulates all the activities within the lifecycle of AI systems that have the potential to interfere with human rights, democracy and the rule of law (Convention, Art. 3). In short, the AI in algorithmic society should not negatively prejudice the existing standards of human rights protection, democracy and the rule of law as they ensue from the domestic constitutional and international legal obligations (Convention, Arts. 4 and 5).

For that purpose, the Convention lays down fundamental principles that all parties to the Convention need to comply with. They pertain to those fundamental rights, values and areas of human activities that could be the most affected by AI. The most sensitive area is, of course, human dignity and individual autonomy. The above-mentioned loss of monopoly over the social construction of reality in the form of the emergence of non-organic actors capable of exerting both perceptible and imperceptible influence on mental and intellectual processes of individuals will significantly affect the right to self-actualization, which constitutes the core of human dignity. Adding to this the implantation of chips in humans, the possibility of merging the organic with the non-organic, of man and machine, and the onset of singularity – a period in which technology so surpasses human capa-

bilities that it can no longer be understood, let alone controlled (Diéguez, García-Barranquero, 2024) – it is clear that a profound transformation of human dignity, already bordering on post-humanity, is under way (Avbelj, 2025). Art. 7 of the Convention thus fittingly requires that each party to the Convention shall adopt or maintain measures to respect human dignity and individual autonomy in relation to activities within the lifecycle of AI systems.

Similar concerns apply to the respect for the right of equality and non-discrimination. The empirical research has clearly shown that the negative effects of bias and discrimination from the analog world can be carried over to the digital world and further amplified when impaired data are fed into the algorithms that drive the existing generative AI applications (Moussavi, Deng, Yoshi, 2024). Furthermore, while algorithmic society is pregnant with promises of economic emancipation and the consequent reduction of economic, social, technological and educational inequalities, it cannot be totally excluded either that the new private-public balance in the political economy (Teubner, Golia, 2023), accompanied by the emergence of techno-oligarchy, exacerbates rather than alleviates the existing inequalities and discrimination. It is therefore more than fitting that Article 10 of the Convention requires from each of the parties to the Convention to ensure that AI systems respect equality, including gender equality, and the prohibition of discrimination, as well as that the still existing inequalities are overcome and a more fair, just and equitable outcomes are achieved.

This conclusion is further reinforced with respect to the right to privacy and personal data protection. Following Article 11 the Convention requires the preservation or the adoption of new measures in accordance with domestic and international law that will ensure that privacy rights of individuals and their personal data are protected as well as that the individuals are offered effective privacy guarantees and safeguards in the AI driven algorithmic society. This is imper-

ative, because the right to privacy is currently undoubtedly undergoing the greatest transformation of all constitutionally protected human rights. Its content depends on the scope of the legitimately expected sphere of privacy within a given society. In circumstances where individuals – typically in a consumerist and utilitarian manner – consciously and voluntarily disclose their privacy through the use of various smart devices, applications, and online platforms, the scope of the expected privacy sphere is relentlessly narrowing. Consequently, the right to privacy itself is becoming increasingly depleted of substance, as growingly powerful private sector and more, but often less democratic states dispense with technologies which in terms of the right to privacy bring the contemporary societies to the verge of private-public authoritarian panopticon.

To ensure the effective protection of human rights in algorithmic society and certainly to prevent the decrease in the existing standards of human rights protection, the parties to the Convention have, finally, bound themselves to promote transparency and oversight, accountability and responsibility, reliability and safe innovation, which will avoid adverse impacts on human rights in the production and during the entire life cycle of the AI systems (Convention, Arts. 8, 9, 12, 13). The Convention also binds the state signatories to provide the aggrieved individuals with accessible and effective remedies for AI related human rights violations, whose prerequisite is sufficient information regarding the functioning of AI on the basis of which the complaint can be lodged and reviewed (Convention, Art. 14). The necessary procedural safeguards should thus be put in place (Convention, Art. 15) and the overall approach to AI systems should be constantly subject to risk and impact management framework (Convention, Art. 15).

It is worth noting, however, that unlike the ECHR and the EU Charter, the Framework Convention on Artificial Intelligence is not self-executing. It does not endow the indi-

viduals with any new individual rights, rather it mandates the state parties to the Convention to adapt their existing legal frameworks so ensure sufficient protection of human rights also in algorithmic society. In that sense the Framework Convention remains a classical international law treaty. It is not a constitutionalized document, and it furthermore lays down only the minimal standards of human rights protection, explicitly allowing the state parties to the Convention to grant wider protection (Convention, Art. 22). This means that the implementation of the Framework Convention effectively remains in the hands of the signatories.

In the EU this role has been taken up by the Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, which is better known as AI Act. In line with the Framework Convention's requirements of putting a risk and impact management framework in place, the AI Act follows a risk-based approach so that the strictness of the regulatory framework for different types of AI is proportionate to the risk they pose. Consequently, when the use of AI poses a risk, which is unacceptable, it is straightforwardly banned. Pursuant of the AI Act these are all those instances which undermine the very human dignity, such as harmful AI-based manipulation and deception, harmful AI-based exploitation of vulnerabilities, social scoring, individual criminal offence risk assessment or prediction, untargeted scraping of the internet or CCTV material to create or expand facial recognition databases, emotion recognition in workplaces and education institutions, biometric categorisation to deduce certain protected characteristics, real-time remote biometric identification for law enforcement purposes in publicly accessible spaces (AI Act).

Other risks envisaged by the AI Act are classified into three groups: high risk, limited risk and minimal or no risk (AI Act). In case of limited risk AI technology is subject to transparency requirements, whereas in case of no risk also no regulation applies. However, when high risk is at stake,

strict regulation applies. This is always so when high risk is posed to the protection of human rights, whereby the aforementioned constitutive rights of constitutional democracy play an especially prominent role. As the EU legislator has explicitly stated: “The extent of the adverse impact caused by the AI system on the fundamental rights protected by the Charter is of particular relevance when classifying an AI system as high risk.” (AI Act, Preamble para. 48).

Thus, for example, the AI act subjects all AI systems used in the field of education and vocational training to a stricter form of regulation, including those used in school and university admission procedures; for the evaluation of learning outcomes; the assessment of appropriate levels of education; and for monitoring and detecting prohibited behaviour of pupils and students (AI Act, Art. 6 and Annex III). Similarly, the AI Act classifies AI systems intended for the prevention, detection, and investigation of criminal offences as high-risk systems, which must be subject to stricter regulation already at the stage of their technological design (AI Act, Annex III). The same also applies for the most instance of AI use for the purposes of law enforcement and administration of justice (AI Act, Annex III).

Of course, AI Act is not a human rights protection document either. It is not a legal basis for human rights protection. As such, it does not create any new human rights, rather it creates a preventive regulatory framework ensuring that human rights violations do not occur due to the use of the new technology. This means that the “classical documents,” such as the ECHR and the EU Charter, and in particular the human rights protection systems that have been established on their basis, will continue to occupy a central role even in the algorithmic society. What the AI Act does, it provides regulatory standards for the safe use of technology, so that AI by its very design does not pose a threat to human rights. Similarly, the Framework Convention quite modestly also insists on the preservation of the existing standards of human

rights protection while adjusting the conventional human rights protection mechanism to the challenges posed by the new technologies in the algorithmic society.

Finally, while the article has focused on international and EU standards of human rights protection under the impact of AI technological development, the above discussed challenges are, of course, also relevant to national systems, including Slovenia. The government has already moved forward with the national legislation implementing the AI Act. This is, however, just one of the many regulatory reactions following the National Programme for the Promotion of the Development and Use of Artificial Intelligence in Slovenia by 2030 that is currently still under preparation.

4. Conclusion

In this article, which joins the overall celebratory mode of the volume, marking two important anniversaries of ECHR and the EU Charter of Fundamental Rights, we have argued that AI, already in its weak form in which it exists today, has brought about a double paradigm shift. First, humans have been deprived of the monopoly over the social construction of reality, which will be hereafter shared with non-organic entities driven by AI relying on the strength of algorithms. Second, this new technology has disproportionately empowered the private sector, large global corporations and digital platforms which are already on par with state authorities, often surpassing them, and not infrequently, especially in case of more authoritarian regimes, acting hand in hand with them in a joined individual freedom disabling public-private duopoly.

As this been demonstrated, this era poses a whole new set of challenges to human rights protection to which also the main European human rights protection documents and legal mechanisms inaugurated by them will need to adapt. The Framework Convention of the Council of Europe has

shown the way forward, binding its signatories not to undermine the existing standards of human rights protection in the digital age. However, the Framework Convention is not self-executing and its effects remain in the hands of the member states. There the EU will play an important role, as the adoption of the AI Act, as well as the whole batch of the Digital Services legislation, demonstrate. There is a clear need of ex-ante regulation of the new technology, as well as of creation of new rights of individuals in the digital environment in the algorithmic society.

The ECHR and the EU Charter of Fundamental Rights both came into existence in the analog times. The respective courts, endowed with the authority of their interpretation and application, have done so in the conventional analog manner. While the “analog” core of the existing human rights will certainly be, and should be, preserved, new technologies will bring before the two courts completely new cases of human rights violations to which the courts will need to give a compelling response. This will require the digital adaptation of the “analog” core of the existing human rights, and it might as well lead to the development of new, currently still inexistent rights. At the same time, the courts themselves will increasingly use AI in their judicial decision-making, which in and of itself, as per AI Act, qualifies as a high risk, and is quite likely to create the pressure to develop further the existing procedural human rights guaranteeing the fair trial.

It can be thus expected that the doctrine of the living constitution, according to which ECHR and the Charter chiefly develop not through amendments to their texts, but through the creative judicial interpretation, will play an increasingly prominent role. For that judges too will need to adjust to the digital times in our algorithmic society. This, however, cannot be achieved in the absence of a wide-ranging reform of legal education, which will need to marry law with digital technology.

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