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ARTIFICIAL INTELLIGENCE AND FUNDAMENTAL PROCEDURAL PRINCIPLES IN CIVIL JUSTICE

Konstantinos Papachristou Dimitras
PhD in Civil Procedural Law, Aristotle University of Thessaloniki, Greece
ORCID iD: *https://orcid.org/0009-0005-3299-2088*

ABSTRACT: This article examines the impact of AI on fundamental procedural principles in civil justice. It argues that AI integration must remain subject to procedural safeguards, transparency, and meaningful human oversight to preserve fair trial guarantees.

KEYWORDS: Artificial Intelligence, Civil Procedure, Fundamental Principles Digitalisation of Courts, Procedural Fairness

I. THE INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO LAW

The systematic engagement of legal bibliography with artificial intelligence dates back to the 1970s and is closely associated with the work of *Thorne McCarty*[1] and the TAXMAN programme. This pioneering project,

[1] McCarty (1977, pp. 837–893).

which was based on provisions of United States tax law, did not aim at the creation of a "robot judge" nor at the automated issuance of judgements. Rather, its primary objective was to explore the manner in which legal professionals interpret vague legal concepts and balance competing arguments. In this sense, TAXMAN constitutes an early computational attempt to model legal interpretation, already raising at that time the fundamental question of whether—and to what extent—the interpretation of law can be represented computationally.

Despite these initial, fragmented research efforts, the establishment of a distinct scientific community in the field of artificial intelligence and law was effectively achieved with the organization of the first International Conference on Artificial Intelligence and Law (ICAIL), held in Boston in May 1987[2]. From that point onwards, research in the field acquired institutional continuity and scientific coherence[3]. The founding of the International Association for Artificial Intelligence and Law (IAAIL) in 1991, followed by the launch of the journal Artificial Intelligence and Law in 1992, completed the institutional consolidation of this area of knowledge. The maturation of scholarly discourse was particularly evident around 2012 with the publication entitled "A History of AI and Law in 50 Papers: 25 Years of the International Conference on Artificial Intelligence and Law"[4], which undertook a comprehensive retrospective assessment of the evolution of artificial intelligence in law through the analysis of fifty seminal papers presented at ICAIL conferences during the first twenty-five years of their existence.

Today, the rapid integration of artificial intelligence into civil proceedings constitutes a structural turning point capable of transforming existing normative frameworks[5], giving rise to concerns regarding the safeguarding of core guarantees such as the right to a fair trial, equality of arms, the right to a natural and independent judge, and procedural transparency—always under the guiding principle of proportionality. Fundamental procedural principles, as enshrined in national codes of civil procedure, are not merely aspirational declarations or non-binding guidelines[6]. They embody essential legal-policy choices made by the legislature on matters governing the conduct of proceedings from their initiation to their conclusion, thereby shaping the distinctive character of the judicial process[7]. Through these principles, the long-term compatibility of civil procedure with fundamental human rights is ensured[8].

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[2] Bench-Capon *et al.* (2012, pp. 215–252), especially section 1 on the historical development of AI and Law.

[3] Since then, ICAIL has been held biennially, in odd-numbered years.

[4] See Bench-Capon *et al.* (2012).

[5] Sorabji (2024, pp. 53 ff.). For China, see Shi *et al.* (2021, pp. 4 ff.). See also *Chinese Courts and the Internet Judiciary* (2019, p. 59). For current EU developments, see European Commission (2025, p. 43).

[6] Diamantopoulos (2023, p. 4).

[7] In Greek law, see Kargados (1987, pp. 465 ff.); Gesiou-Faltsi (1995, pp. 129 ff.).

[8] Cf. on the issue of infringements of fundamental rights through the use of artificial intelligence systems Malgieri and Santos (2025, pp. 106 ff.); Ho-Dac (2025, pp. 1299 ff.).

Although the means of administering justice are undergoing transformation—marked by the transition from physical to digital or hybrid proceedings—the purpose of civil litigation remains unchanged: the realization of the substantive right at stake[9]. Applications of artificial intelligence now interact directly with these fundamental procedural principles[10], rendering it necessary to adapt procedural law to contemporary technological practices. Comparative analyses reveal divergent national approaches to the incorporation of artificial intelligence into civil procedure, with a common denominator being the need to preserve meaningful human oversight, transparency, technological procedural equality, and effective mechanisms for accountability and contestability of automated functions[11].

This article makes three original contributions. First, it reframes traditional procedural guarantees—such as the right to be heard and the principle of the lawful judge—in light of algorithmic mediation in civil proceedings. Rather than focusing on a single procedural principle, it examines the interaction between artificial intelligence and a set of fundamental procedural guarantees, understood as forming an interconnected normative framework. This methodological choice reflects the structural nature of civil procedure—particularly in continental legal systems—where procedural principles do not operate in isolation, but in a dynamic relationship that collectively shapes the fairness and legitimacy of adjudication.

Second, it argues that the integration of AI into civil justice systems does not merely raise technical or efficiency concerns but reshapes the normative core of procedural fairness. Adopting a rights-based and system-oriented approach, the article analyses how the integration of AI into civil justice systems affects core procedural guarantees, including the right to be heard, equality of arms, and the principle of the lawful judge. It distinguishes between systemic risks—such as algorithmic opacity, automation bias, and structural inequalities— and those risks that may be mitigated through procedural safeguards, including transparency, explainability, and meaningful human oversight.

Third, by drawing on EU law, European human rights jurisprudence, and comparative procedural theory, the article further argues that the legitimacy of AI-assisted adjudication depends not only on compliance with formal legal rules but also on the design, governance, and institutional embedding of digital systems. In this context, it proposes a framework for assessing the compatibility of AI with fundamental procedural principles, emphasising that technological integration must remain subordinate to the requirements of a fair trial and the preservation of human judicial responsibility.

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[9] On the purposes of civil procedure, see Gaul (1968, pp. 27 ff.); Jauernig (1971, pp. 329 ff.); Henckel (1988, pp. 41 ff.); Pawlowski (1960, pp. 209 ff.). On civil procedure as protection of substantive rights, see Jacobs (2005, pp. 184–185); Pohle (1957, pp. 197, 234); Mitsopoulos (1972, pp. 34–36).

[10] On technology and civil justice, see Sourdin (2021, pp. 1 ff.); Lopes (2025, pp. 47 ff.); Russell and Norvig (2021); Strong (forthcoming 2026, pp. 1, 41); Edwards (2022); Re and Niederman (2019, pp. 242 ff.); van Gyseghem (2021, pp. 257 ff.); Kaisis (2007, pp. 1025 ff.)

[11] Sorabji (2024, pp. 57 ff.); see also De la Torre Soto and Rodriguez-Serpa (2024, pp. 807 ff.).

II. THE EU AND INTERNATIONAL REGULATORY FRAMEWORK ON ARTIFICIAL INTELLIGENCE AND PROCEDURAL SAFEGUARDS

Taken as a whole, fundamental procedural principles—being an embodiment of value judgments, ideological choices, and legal-policy balancing[12]—lay down binding rules and provide interpretative guidance for the operation and structure of civil proceedings. These principles do not constitute mere guidelines, but rather foundational normative assumptions that shape the model of an ideal, and above all fair, procedure. The introduction of artificial intelligence systems into the administration of justice affects this procedural structure not only at a technical level, but also at a normative one, reshaping the fragile balance between the efficiency of judicial activity and the safeguarding of fundamental rule-of-law guarantees[13]. Relevant concerns were raised at the European level as early as 2018, when the Council of Europe, through the European Commission for the Efficiency of Justice (CEPEJ)[14], adopted the *Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment*. This Charter identified five fundamental principles:

(a) the principle of respect for fundamental human rights, as protected by the European Convention on Human Rights and the GDPR[15];

(b) the principle of equality and non-discrimination[16];

(c) the principle of quality and security, encompassing security, confidentiality, and integrity[17];

(d) the principle of transparency, impartiality, and fairness[18]; and

(e) the principle of autonomy and independence, understood as the possibility of reviewing the data and outputs generated by algorithmic systems under human supervision[19].

Subsequently, on 20 February 2020, the European Commission issued the *White Paper on Artificial Intelligence*[20], which outlines the Union's strategy for strengthening its competitiveness while simultaneously safeguarding fundamental rights, citizens' trust, and the human-centric character of artificial intelligence[21]. This development reflected the growing recognition that the

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[12] Kargados (1987, p. 465).

[13] See Kosta (2024, pp. 9 ff.). On the historical development and gradual institutional integration of artificial intelligence into EU law, see Jougleux (2025, pp. 19 ff.).

[14] Council of Europe – CEPEJ. See also Christodoulou (2025, pp. 32 ff.).

[15] See van Gyseghem (2021, pp. 257 ff.); see also Demetzou (2025).

[16] Lütz (2024, pp. 79 ff.).

[17] Eliot (2020).

[18] Cheong (2023); Söderlund (2025, pp. 96 ff.); Larsson and Heintz (2020); see also Mittelstadt, Russell, and Wachter (2019, p. 279).

[19] Terzidou (2022, p. 160); Lopes (2025, pp. 51 ff.).

[20] European Commission (2020), *White Paper on Artificial Intelligence: A European Approach to Excellence and Trust*.

[21] Söderlund (2025, p. 98); Amariles and Baquero (2023); Schmager, Pappas, and Vassilakopoulou (2025, pp. 3771 ff.); Bryson and Theodorou (2019, pp. 305 ff.).

legitimacy of artificial intelligence within judicial proceedings is inextricably linked to the preservation of trust in the judicial function[22] and to compliance with the guarantees of a fair trial.

This regulatory trajectory culminated in the adoption of the *Artificial Intelligence Act (AI Act)*[23], which introduces harmonised and binding rules governing the development and use of artificial intelligence systems within the European single market[24]. The Regulation explicitly underscores that its application must be consistent with the fundamental values of the Union, as enshrined in the Charter of Fundamental Rights of the European Union, aiming to protect both natural and legal persons without stifling technological progress[25].

At the international level, similar orientations are reflected in the OECD Principles on Artificial Intelligence[26], which emphasize respect for the rule of law and fundamental rights, the human-centric approach to artificial intelligence, transparency, and the possibility of challenge and accountability. Taken together, these EU and international frameworks, in conjunction with the guarantees enshrined in Article 6 of the European Convention on Human Rights, articulate the new procedural landscape of the digital era, in which innovation must remain subject to the constraints of the right to a fair trial[27]. From this perspective, the right to a fair trial operates as a supraordinate principle permeating the entirety of procedural rules and is interpreted dynamically as a "living instrument"[28], in the light of evolving social, economic, and technological conditions.

III. FUNDAMENTAL PROCEDURAL PRINCIPLES AS THE CORE OF THE PROTECTION OF THE RULE OF LAW

In light of the foregoing, it becomes clear that the supranational guarantees of the European Convention on Human Rights and the Charter of Fundamental Rights of the European Union do not operate autonomously, but permeate domestic procedural law, influencing the interpretation and application of national Codes of Civil Procedure. Transposing these supranational fundamental procedural principles to the national level, the principles typically enshrined in national Codes of Civil Procedure—such as: (a) the principle of party disposition, (b) the adversarial principle, (c) the principle

[22] For a more detailed analysis, see Section V below.

[23] The Regulation applies from 2 August 2026, unless otherwise provided for specific chapters or provisions (Art. 113). It was preceded by Proposal COM(2021) 206 final.

[24] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, available at EUR-Lex.

[25] AI Act, recital 1.

[26] Di Sibio (2023). On relevant principles, see OECD AI Principles (2019).

[27] Terzidou (2022, p. 154); Lopes (2025, pp. 49 ff.).

[28] ECtHR, *Tyrer v. the United Kingdom* (Application No. 5856/72): "the Convention is a living instrument … to be interpreted in the light of present-day conditions".

of equality of the parties, (d) the principle of the right to be heard, (e) the principle of the lawful judge, (f) the principle of good-faith conduct of proceedings— are called upon to be redefined under the new conditions. This is because the convergence of these international principles with domestic procedural law is of decisive importance, insofar as only when artificial intelligence is embedded within the framework of fundamental procedural principles can it be considered to operate legitimately within the rule of law.

The following analysis proceeds by examining selected fundamental procedural principles, not as isolated doctrinal categories, but as functional guarantees that may be affected—directly or indirectly—by the integration of artificial intelligence into civil proceedings. The aim is to highlight how these principles are not merely challenged, but potentially redefined in the context of algorithmic mediation.

a. The Principle of Party Disposition

The principle of party disposition establishes the parties' control over the subject matter of the dispute[29]: proceedings are initiated, conducted, and terminated at the initiative of the parties[30]. It constitutes an expression of private autonomy within the procedural legal order and operates as an institutional counterweight against any form of heteronomous determination of judicial protection. From this perspective, the introduction of artificial intelligence systems into civil proceedings raises the critical question of whether—and to what extent— algorithmic support may influence the formulation, scope, or even the will of the parties with regard to the disposition of the subject matter of the dispute.

It is preferable to accept that even where proceedings are conducted through electronic means (e.g. electronic filing, automated registration or processing of data, etc.), the initiative of the parties and their ability to delimit the subject matter of the dispute must remain intact. The integration of artificial intelligence systems into civil procedure cannot lead to the substitution of the parties' will through algorithmically generated suggestions or pre-selected automated options. In this respect, the requirements of transparency (Article 13 AI Act) and human oversight (Article 14 AI Act) constitute a necessary condition for compatibility with the ECHR (Article 6).

Moreover, the Court of Justice of the European Union has repeatedly emphasized—inter alia in cases C-349/07[31] and C-300/11[32]— that every judicial procedure must ensure the effective possibility of expression, participation,

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[29] From Greek legal bibliography, see Kerameus (1986, p. 148); Gesiou-Faltsi (1987, pp. 641 ff.); Nikas (2020, pp. 563 ff.).

[30] Delikostopoulos (1965).

[31] CJEU, Case C-349/07, *Sopropé*, ECLI:EU:C:2008:746

[32] CJEU, Case C-300/11, *ZZ v Secretary of State for the Home Department*, ECLI:EU:C:2013:363.

and control by the person concerned[33]. In line with this reasoning, Article 14 of the EU Artificial Intelligence Regulation (AI Act) expressly establishes the requirement of human oversight[34] in high-risk systems, which include systems providing legal protection used[35] in the administration of justice.

Such human oversight may be either constitutive, where human intervention constitutes a necessary element of decision-making, or corrective, where a human intervenes ex post in order to review, revise, or annul an outcome produced or supported by an artificial intelligence system[36]. This oversight serves not only procedural safety, but also procedural equality, the right to be heard, and ultimately trust in the administration of justice[37]. For this reason, it must be meaningful and grounded in an institutionally embedded distrust towards the algorithm[38].

Indeed, the use of artificial intelligence systems in judicial proceedings does not automatically guarantee scientific validity. Where such systems are based on methodologies not recognised by the international scientific community or attempt to resolve conceptually unsolvable problems, there is a risk that they may devolve into forms of "junk science"[39], with direct and serious consequences for due process and the protection of fundamental rights.

In the absence of a clear regulatory framework, there is always a risk that algorithmic convenience may evolve into a normative substitute for the will of the parties, thereby calling into question the very core of the fair trial.

In this context, a possible normative approach could take the following form:

> "No procedural act shall produce legal effects insofar as it is based exclusively on automated processing without meaningful human oversight".

b. The Adversarial Principle and the Right to Be Heard

The adversarial principle ensures that factual and legal issues are developed by the parties themselves and constitute the subject of adversarial debate before the court[40]. Each party must have the opportunity to submit arguments, to adduce and challenge evidence, and to be aware of the entirety of the evidentiary material on which the judicial decision will be based. The principle of the right to be heard further guarantees each party the

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[33] More generally, procedural rules must not become obstacles that negate access to justice and substantive adjudication. See ECtHR, *Savvides v. Cyprus* (Application No. 14195/15); ECtHR, *Zubac v. Croatia* (Application No. 40160/12).

[34] Laux (2023, pp. 2853 ff.); Söderlund (2025, pp. 104 ff.); see also Davidovic (2023, p. 2).

[35] For this distinction, see Laux (2023, pp. 2853 ff.).

[36] Selçuk, Konca, and Kaya (2025, pp. 106–136); Terzidou (2022, p. 165).

[37] See Davidovic (2023, pp. 1 ff.).

[38] Laux (2023, p. 2854), who conceptualises distrust as a democratic tool.

[39] See Palmiotto (2024).

[40] See Rammos (1934); Kargados (1980, pp. 233 ff.).

right to express views on all arguments and evidence introduced into the proceedings[41].

The use of automated or algorithmic systems in judicial proceedings confers a new dimension upon these principles. Pursuant to Article 22 GDPR, every person has the right not to be subject to a decision based solely on automated processing without the possibility of human intervention. Thus, even where an information system proposes a solution or assists in shaping the court's assessment, each party must retain the possibility of human review and substantive reconsideration of the outcome. If a party is unaware of the methodology, criteria, and parameters on the basis of which an outcome is produced, it is deprived of the possibility of effective challenge, thereby infringing the core of the right to be heard[42].

In a contemporary context, the right to be heard is intrinsically linked to the explainability of algorithms, as it is understood as a right to comprehension and effective rebuttal, rather than as mere formal participation in the proceedings. Particularly illustrative in this regard is case C-245/2025[43], which clearly highlighted the procedural risks inherent in the use of advanced simulation software in the administration of justice. Specifically, in a traffic accident case in Sofia, the claimant requested a judicial expert opinion to determine liability. The expert used the Virtual Crash 4.0 software (designed for the US market), which automatically generates results and simulates accidents. The court found that the software operates as a high-risk artificial intelligence system and referred a preliminary question to the CJEU as to whether such software, which assists the expert in drafting a report upon which the judicial decision is based, falls within the definition of high-risk AI systems. This case demonstrates that the use of algorithmic tools in judicial proceedings is not procedurally neutral. On the contrary, where the generated outcome is not sufficiently explainable or verifiable by the parties and the court, a serious risk arises of infringing the adversarial principle and the right to be heard. Moreover, decision-making based on artificial intelligence is equally vulnerable to error and bias, as algorithms lack the mechanisms of social control that govern human behavior[44].

In light of the above, it becomes evident that the effective exercise of the right to be heard presupposes not only the formal possibility of participation in the proceedings, but also substantive understanding and the ability to challenge algorithmically generated outcomes. This necessity grounds the normative requirement of explainability and human intervention as indispensable conditions for the compatibility of artificial intelligence with fundamental procedural principles.

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[41] See in particular Apalagaki (1989, pp. 107 ff.); Klamaris (1989).

[42] See ECtHR, *Regner v. the Czech Republic* (Application No. 35289/11); see also CJEU, Case C-349/07, *Sopropé*; CJEU, Case C-300/11, *ZZ v Secretary of State for the Home Department*.

[43] Available at CURIA.

[44] Sorabji (2024, p. 60); see also Gadamer (1972, pp. 279, 291–292); Christodoulou (2025, p. 35).

In this context, a possible normative approach could take the following form:

> "At every stage of the proceedings, where algorithmic or automated means are used, the parties shall have the right of access to documentation that is explainable".

c. The Principle of Equality of the Parties

Within the framework of digital justice, the principle of equality of arms assumes the form of technological procedural equality, as a specific manifestation of Articles 6 §1 ECHR and 47 of the Charter of Fundamental Rights of the European Union[45]. This principle requires that each party enjoy substantively equivalent opportunities to present arguments and evidence, without being placed at a disadvantage due to technical, digital, or cognitive factors. The introduction of digital procedures into civil litigation must therefore ensure not only enhanced access to justice in general, but also intelligible, accessible, and functionally equivalent use of technological tools that influence the formation of judicial reasoning.

However, digital and artificial intelligence systems are often designed in ways that restrict accessibility or generate indirect inequalities, either due to poor design or implicit and unconscious bias on the part of their developers. Such biased specifications may affect specific groups, in particular persons with visual or hearing impairments, learning disabilities, elderly persons, foreigners, individuals with low digital literacy, or limited financial resources[46]. For this reason, the need to maintain parallel non-digital channels of access to justice ("offline justice") has rightly been emphasised, especially where exclusive reliance on digital means becomes practically prohibitive or creates a risk of unequal treatment. The problem becomes more acute in cases of technical malfunctions or cyberattacks, where the absence of alternative procedural options may undermine equality of arms and the right of access to justice, as exemplified in procedures governed by the principle of temporal priority (e.g. electronic filing with land registries).

Finally, it must not be overlooked that, in certain cases, non-digital solutions—such as physical hearings before the court— may constitute the most appropriate means of safeguarding fundamental procedural rights[47]. Technology, therefore, does not operate as an end in itself, but as a tool that must remain subordinate to the requirements of a fair trial.

In this context, a possible normative approach could take the following form:

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[45] Sorabji (2024, pp. 38, 58 ff.); see also EU Agency for Fundamental Rights (2025, Opinion 4, p. 10); CEPEJ (2018, p. 47).

[46] Sorabji (2024, pp. 61 ff.); Terzidou (2022, pp. 162 ff.).

[47] EU Agency for Fundamental Rights [FRA] (2025, Opinion 4, p. 10).

"The use of artificial intelligence shall not be permitted to create inequalities in access, comprehension, or effective participation in the proceedings".

d. The Principle of the Lawful Judge

The principle of the lawful judge[48]—according to which justice is administered by a judge designated by law prior to the emergence of the dispute and composed in accordance with general and objective rules— constitutes a fundamental guarantee of a fair trial and judicial independence. It derives both from national constitutions and, in particular, from Article 6 §1 ECHR, as well as Articles 19 TEU and 47 of the Charter of Fundamental Rights of the European Union. From this perspective, the principle of the lawful judge is incompatible with the notion of an "algorithmic judge". Artificial intelligence cannot substitute the human judge, either in the constitution of the court or in judicial decision-making. It permits only the use of algorithmic tools as auxiliary means, within clearly defined limits of accountability, transparency, and human oversight.

Of particular importance in this regard is the pending case C-159/2025[49] (SLPS, Poland), which concerns the legality of the use of automated case allocation software (System Losowego Przydziału Spraw – SLPS) in Polish courts is of particular importance. Operating under the supervision of the Ministry of Justice, the system assigns cases to judges through algorithmic "random" selection. In the case at issue, cases initially allocated automatically to a specific judge were reassigned, following her transfer, to another judge without justification and without transparency as to the functioning of the algorithm. The judge who received the cases raised an objection, arguing that the allocation was irregular and uncontrolled. The Warsaw court submitted a preliminary reference to the CJEU, seeking clarification as to whether the use of an artificial intelligence or automated system for case allocation—without adequate reasoning, without the possibility of reviewing the source code, and with the involvement of an executive authority— is compatible with Article 19 TEU, Articles 20 and 47 of the Charter, and Article 14 of the AI Act, in terms of judicial independence, impartiality, and the lawfulness of the judge.

The significance of this case goes beyond the technical organization of courts. It touches upon the very core of the principle of the lawful judge, as opaque or uncontrolled algorithmic allocation of cases may create—or at least give rise to a reasonable suspicion of—indirect influence on judicial activity. In the same vein, the CJEU, in its landmark judgment Associação Sindical dos Juízes Portugueses (C-64/16)[50], emphasised that judicial independence is not an organisational detail, but a fundamental prerequisite for trust in the rule of law and effective judicial protection. Consequently, the

[48] Kondylis (2007, *passim*); Dagtoglou (2012, pp. 1214 ff.).
[49] EUR-Lex.
[50] CJEU, Associação Sindical dos Juízes Portugueses, Case C-64/16, ECLI:EU:C:2018:117.

principle of the lawful judge operates as a normative limit to the integration of artificial intelligence into judicial activity.

In this context, a possible normative approach could take the following form:

> "The administration of justice shall be exercised by human judges; artificial intelligence shall be permitted solely as an auxiliary means under human oversight".

e. The Principle of Good-Faith Conduct of Proceedings

In the contemporary digital environment, the principle of good-faith conduct of proceedings assumes increased importance. The use of artificial intelligence systems in judicial practice has qualitatively altered the conditions under which procedural rights are exercised. While artificial intelligence may legitimately function as a tool of assistance, it simultaneously entails a risk of abuse with a direct impact on the good-faith conduct of proceedings. In particular, the use of artificial intelligence to generate false or manipulated evidentiary documents, fabricate non-existent case law or fictitious judgements, alter digital evidence (e.g. deepfakes, images generated by ChatGPT), or misleadingly analyze factual circumstances with the aim of distorting the court's assessment, constitutes a direct infringement of the principle of good faith and the duty of truth[51].

In this context, a possible normative approach could take the following form:

> "The use of artificial intelligence shall comply with the duty of truth and the principle of the good-faith conduct of proceedings".

IV. INSTITUTIONAL, PROCEDURAL AND COGNITIVE RISKS OF AI IN CIVIL JUSTICE

In this context, the European Union Agency for Fundamental Rights (FRA) has highlighted that the systematic introduction of digital tools and artificial intelligence applications into the judicial practice of Member States constitutes a profound institutional transformation which, in the absence of adequate safeguards, may significantly affect the fundamental rights enshrined in the Charter of Fundamental Rights of the European Union. The FRA points out that[52], despite the significant benefits of digitalization (speed, transparency, improved access to justice), serious risks persist for: the right to respect for private life (Article 7 CFR), the protection of personal data (Article

[51] Diamantopoulos (2025, pp. 73 ff.).

[52] EU Agency for Fundamental Rights [FRA]. (2025). *Digitalising justice: A fundamental rights-based approach*. Publications Office of the European Union.

8), the prohibition of discrimination (Article 21), the right to a fair trial and effective judicial protection (Article 47), as well as defence rights (Article 48).

In its relevant study, the FRA analyzed the use of 31 digital justice tools across seven Member States (Austria, Estonia, France, Italy, Latvia, Poland, and Portugal), concluding that digitalization must be implemented under a human-centric approach[53] and continuous oversight, so as to strengthen— rather than undermine— fundamental rights[54].

Thus, the integration of artificial intelligence into civil justice systems gives rise to a multi-layered set of risks, which cannot be treated as a homogeneous category. For analytical clarity, these risks may be distinguished into three interrelated dimensions: (a) institutional risks, which affect the institutional foundations of the judicial function; (b) procedural risks, which impact the operation of procedural guarantees and (c) cognitive risks which relate to the behavior and decision-making patterns of human actors interacting with AI systems.

At the institutional level, the use of AI challenges structural guarantees of the rule of law, particularly transparency, accountability, and judicial independence. The so-called "black-box effect[55]", whereby algorithmic reasoning remains opaque, undermines both the publicity of proceedings and the ability to verify the basis of judicial outcomes. This opacity weakens the intelligibility of adjudication as a public act of justification, thereby eroding trust in judicial reasoning as a reason-giving enterprise grounded in Art 6 (1) ECHR requirements. Moreover, reliance on privately developed systems introduces risks of external influence and shifts elements of judicial epistemic authority towards non-state actors, particularly where proprietary protections and trade secrets limit scrutiny of algorithmic design. In this sense, the institutional architecture of adjudication risks becoming partially dependent on infrastructural technologies that are neither democratically legitimised nor fully subject to traditional forms of judicial oversight.

At the procedural level, AI directly affects the conditions under which fundamental rights are exercised. Algorithmic opacity may limit the parties' ability to challenge evidence, thereby undermining the adversarial principle and the right to be heard[56]. This is particularly problematic in light of the requirement that parties must be able to understand and contest the evidentiary basis of judicial reasoning in order to exercise effective remedies, including the right of appeal. At the same time, unequal access to advanced technological tools creates asymmetries between litigants, raising concerns under the principle of equality of arms[57]. Such disparities may distort procedural equilib-

[53] On the human-centred character of artificial intelligence systems, see supra note 21.

[54] EU Agency for Fundamental Rights [FRA] (2025, Opinions 6–7).

[55] Pasquale (2015); Söderlund (2025, p. 112); Scherer (2019, pp. 22 ff.); Terzidou (2022, p. 164); Lopes (2025, pp. 59 ff.).

[56] EU Agency for Fundamental Rights [FRA]. (2022). *Bias in algorithms: Artificial intelligence and discrimination*. Publications Office of the European Union.

[57] Panagopoulou (2024, p. 52).

rium not only through differential access to AI-enhanced legal analytics, but also through unequal capacity to interpret or rebut algorithmically generated outputs presented in court. These risks, however, may be partially mitigated through procedural safeguards such as transparency obligations, explainability requirements, disclosure duties regarding algorithmic involvement in decision-making, and guaranteed access to meaningful human review, consistent with the guarantees embedded in Art 47 CFREU and the broader ECHR framework.

Finally, at the cognitive level, the interaction between human decision-makers and AI systems generates risks such as automation bias[58], cognitive offloading, and diminished critical scrutiny[59]. Judges and legal practitioners may, consciously or unconsciously, defer to algorithmic outputs perceived as objective or scientifically neutral, thereby weakening independent legal reasoning. This tendency may be reinforced by institutional pressures such as workload efficiency demands and the perceived authority of data-driven systems. As a result, AI may subtly reshape judicial cognition by transforming the judge from an active evaluator of facts and law into a more passive validator of pre-structured outputs. Over time, such dynamics risk altering the epistemic culture of adjudication itself, reducing the intensity of deliberative engagement with evidence and legal argumentation. Consequently, safeguarding the cognitive autonomy of judicial actors becomes essential to preserving the integrity of fair trial guarantees in an increasingly algorithmically mediated justice system.

The case of State v. Loomis (2016)[60] is illustrative in this respect. Eric Loomis was sentenced to six years' imprisonment following a risk assessment conducted by the COMPAS[61] software, which classified him as a high risk of reoffending. Loomis challenged the software, arguing that it failed to assess his individual circumstances in concreto, thereby violating his rights to a fair trial and individualized sentencing. The Wisconsin Supreme Court dismissed Loomis's appeal, noting that the risk assessment produced by COMPAS was only one of several factors considered and not the decisive one. Nevertheless, the core issue lies in the impossibility of determining the extent to which the judge's decision was influenced by the automated system. The judicial outcome may have been significantly shaped by the software's result without this influence being readily detectable. Under such conditions, the institutional safeguarding of human judgment as the final filter of any automated process becomes indispensable. The significance of the case lies not merely in the use of algorithmic tools, but in the difficulty of assessing their actual influence on

[58] Strong (2026, p. 20); Skitka *et al.* (1999, p. 991).

[59] See in detail Strong (2026, pp. 22 ff.), who observes that "generative AI" entered legal practice when, in 2023, ChatGPT was found capable not only of passing but excelling in U.S. bar examinations. See also American Bar Association, Task Force on Law and Artificial Intelligence, *AI and Legal Education Survey Results* (2024); cf. Marcellino *et al.* (2023, p. 26).

[60] Wisconsin Supreme Court, *State v. Loomis*; Lopes (2025, pp. 54 ff.).

[61] Correctional Offender Management Profiling for Alternative Sanctions (COMPAS).

judicial reasoning. Even where such tools are formally presented as auxiliary, their practical impact may be decisive, without being transparent or subject to effective scrutiny. In this respect, the case exemplifies broader concerns regarding opacity, accountability, and the limits of meaningful human oversight.

To address these risks, priority is given to the institutional safeguarding of human judgment as the ultimate filter of every automated process, through human oversight, transparency, and explainability of artificial intelligence systems, as well as the establishment of mechanisms for control, accountability, and ethical governance[62]. A pivotal role is ultimately played by the principle of proportionality, which is called upon to delineate the use of artificial intelligence, permitting it only where it improves procedural efficiency without distorting judicial reasoning, as has also been emphasized in the case-law of the European Court of Human Rights.

Indicatively, in Xavier Lucas v. France (2022)[63], the ECtHR held that digital technologies may contribute to improving the administration of justice, provided that the requirements imposed for electronic filing are proportionate to the legitimate aim pursued. The Court found that the strict requirements imposed on the applicant, combined with the severe consequences of non-compliance, violated the right of access to a court under Article 6 § 1 ECHR. Similarly, in Patricolo and Others v. Italy (2024)[64], the ECtHR ruled that Italy had violated the right of access to a court, as the applicants' cases were dismissed due to uncertified copies of electronic documents, without granting them the opportunity to submit the required certifications.

While procedural safeguards constitute a necessary condition for the lawful integration of artificial intelligence into civil justice, they are not, in themselves, sufficient. A purely rules-based approach risks addressing the effects of artificial intelligence without adequately regulating its underlying architecture. Accordingly, the legitimacy of AI-assisted adjudication depends equally on governance structures, system design, and lifecycle management.

The European Union's Artificial Intelligence Act reflects this shift towards a systemic approach. In particular, high-risk AI systems—such as those used in the administration of justice—are subject to a set of ex ante and ongoing obligations, including: the continuous operation of a risk management system [Art 9 of the Regulation (EU) 2024/1689]; the use of high-quality training, validation, and testing data to prevent discrimination (Art 10); the preparation and continuous updating of technical documentation (Art 11); record-keeping (Art 12); transparency and traceability, through the automatic generation of logs and the provision of clear instructions for use, so that users understand the system's capabilities and limitations (Art 13); human oversight (Art 14); and finally, technical robustness, accuracy, and cybersecurity

[62] See supra Section III(a).

[63] ECtHR, *Xavier Lucas v. France*, Application No. 15567/20, Judgment of 9 June 2022.

[64] ECtHR, *Patricolo and Others v. Italy*, Application Nos. 37943/17, 54009/18, and 20655/19, Judgment of 23 May 2024.

(Art 15). These requirements demonstrate that the regulation of artificial intelligence in civil justice cannot be confined to procedural guarantees alone. Instead, it must extend to the design, deployment, and institutional supervision of technological systems.

From this perspective, procedural law and technological governance operate as complementary layers of protection. While procedural principles safeguard the fairness of the individual case, governance mechanisms ensure the structural reliability of the systems upon which those procedures increasingly depend.

V. FINAL REFLECTIONS: THE EMOTIONAL CRITERION AS A LIMIT TO THE INTERVENTION OF ARTIFICIAL INTELLIGENCE IN JUSTICE

The introduction of artificial intelligence into judicial practice does not merely constitute a technological transition, but rather a profound institutional threshold. It is evident that artificial intelligence is penetrating ever more deeply into the sphere of civil justice, reshaping procedural mechanisms, accelerating adjudication, and enhancing organizational efficiency. This transition, however, does not take place in an institutional vacuum. Fundamental procedural principles—such as party disposition, adversarial proceedings, the right to be heard, equality of arms, the natural judge, and the good-faith conduct of proceedings— operate as normative counterweights, as limits that define not only *how* artificial intelligence may be integrated into judicial proceedings, but, more crucially, *how far* such integration may go.

As aptly observed by an Italian judge: *"Digitalization can make the [justice] system more efficient and speed up decisions. That would benefit everyone who turns to [it] to protect fundamental rights. But the risk is that poor digitalization can instead make it harder to protect those rights"*[65] Efficiency, when deprived of institutional guarantees, may thus shift from a means of strengthening justice to a factor contributing to its erosion. Automation, when applied within a functional and well-structured institutional framework, amplifies effectiveness; when applied within an institutionally fragile system, it operates inversely, magnifying distrust[66].

Accordingly, notwithstanding the undeniable importance of artificial intelligence in the organization, classification, and processing of information, the essential core of the adjudicative function must remain irreducibly human-centered. At this juncture emerges the so-called *"emotional criterion"*,

[65] EU Agency for Fundamental Rights [FRA]. (2025). *Digitalising justice: A fundamental rights-based approach*.

[66] As noted in contemporary bibliography, the regulation of artificial intelligence primarily aims at the protection of citizens and fundamental values; however, technologically extensive deployment entails the risk of reinforcing institutional inequalities and social distrust if not accompanied by clear limits and human oversight; see Wang (2024, Article 105965).

not as an argument against technology, but as a normative boundary that separates human judgment from algorithmic calculation—and ultimately as an institutional barrier against automation.

Judicial decision-making, after all, is not constructed exclusively from rules and data. It incorporates human experience, an understanding of the fragile balance between positive law and justice, and the judge's capacity to weigh non-quantifiable factors. While algorithms may calculate probabilities, identify patterns, and correlate data, they cannot "encounter" the human being in the realm of moral judgment and emotional experience. Emotional intelligence, respect for human dignity, sensitivity to social complexity, and attentiveness to individual particularities constitute insurmountable limits for artificial intelligence.

It is precisely within this grey zone—where technical means cannot intervene—that human oversight becomes indispensable, not as a mechanism of formal control, but as a necessary procedural complement. The explicit enshrinement of human oversight in Article 14 of the AI Act is therefore not a merely technical provision, but a normative acknowledgment that ultimate responsibility for judgment cannot be detached from the human agent. It should not be forgotten that the court has historically been more than a venue for dispute resolution; it has functioned as a symbol of legality. In the digital era, where judgment increasingly shifts from the courtroom to algorithmic and platform-based environments, the court must not entirely forfeit this traditional, albeit symbolic role[67].

From this perspective, artificial intelligence can operate only as an instrument for enhancing, and never substituting, judicial reasoning. The judge remains the sole irreplaceable point of connection between law and the human condition—the only actor capable of interpreting legal norms in light of the concrete case, weighing the interests of the parties, integrating equity, and apprehending the subtle moral dimension inherent in every judicial decision.

While certain elements of the analysis draw on conceptual frameworks developed within common law scholarship, it must be acknowledged that continental legal systems—particularly those influenced by Napoleonic codification—approach procedural principles in a more systematic and codified manner. Nevertheless, functional equivalents of these principles can be identified, allowing for a comparative and integrative analysis that transcends formal doctrinal differences. Within this framework, Sorabji[68] likewise proposes a unified system of procedural principles, such as Purposive, Efficiency, Autonomy, Concentration, Prevention, Cooperation, and Proportionality, which function as normative axes governing every procedural act. The innovation of his approach lies in the explicit linkage of these principles to the digital transformation of justice, underscoring that the use of technology—and artificial

[67] Helberger (2025, pp. 106 ff.).
[68] Sorabji (2024, *passim*).

intelligence in particular—is not value-neutral, but must be aligned with the fundamental guarantees of a fair trial.

Ultimately, the emotional criterion should not be understood as a purely subjective or psychological element, but as a juridically relevant dimension of adjudication. It reflects the capacity of the judge to engage in individualized assessment, to interpret and apply the law in light of the specific circumstances of the case, and to provide reasoned decisions that are both rationally justified and socially intelligible. In this sense, the emotional dimension of judicial decision-making is closely linked to established procedural guarantees, such as the duty to give reasons, the principle of the appearance of justice, and the requirement of individualized adjudication. These elements cannot be fully replicated by algorithmic systems, which operate on the basis of generalization, pattern recognition, and probabilistic reasoning. Accordingly, the emotional criterion functions not as a rejection of technological innovation, but as a normative boundary ensuring that the core of adjudication remains anchored in human judgment.

In this regard, the enduring formulation of the European Court of Human Rights in *Delcourt v. Belgium*[69] remains emblematic: *"Justice must not only be done; it must also be seen to be done."* Justice, therefore, need not only be rational; it must also be recognisably human. Ultimately, the question is not whether artificial intelligence should be integrated into civil justice, but how its integration can be structured in a way that preserves the normative integrity of procedural law.

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[69] ECtHR, *Delcourt v. Belgium*, Application No. 2689/65, para. 31.

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