

“The Impact of Artificial Intelligence Technologies on the Quality of Judicial Judgments –A Review of the 2024 European Regulation and Its Implications for Algeria”–

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–A Review of the 2024 European Regulation and
Its Implications for Algeria–**

أثر تقنيات الذكاء الاصطناعي على جودة الحكم القضائي
–قراءة في اللائحة الأوروبية لسنة 2024 واسقاطاتها على الجزائر–

Messafah Fatma*, Lounisi Ali University - Blida2-
fatmameassafahfa@gmail.com

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Abstract:

The justice sector has been transformed by digital advances, prompting legislative action to regulate technologies like artificial intelligence while safeguarding fair trial principles and judicial independence. The European Union has led with the 2024 AI Regulation, while Algeria is modernizing its judiciary by adopting electronic litigation and remote hearings to streamline procedures and reduce caseloads. These developments raise important legal and technical questions about aligning new technologies with constitutional safeguards. The topic highlights the need to benefit from leading legislative models, especially the European example, to develop an effective legal and practical framework for electronic litigation that meets contemporary justice needs

Key words: Artificial Intelligence, Electronic Litigation, Trial, Judgment, Judiciary

Introduction:

The digital revolution has ushered in a profound shift across various fields, including the justice sector, where the urgent need to establish legal frameworks has emerged. These frameworks must govern the use of digital technologies in a domain that is inherently sensitive, as it directly concerns the principles of justice and the guarantees of a fair trial.

Several states have taken steps to codify the use of these technologies, ensuring their alignment with broader legal standards and safeguarding judicial independence and litigants' rights.

In this context, the significance of the subject becomes apparent. Modern legislations—particularly within the European Union—have introduced specific legal instruments addressing artificial intelligence technologies, foremost among them the 2024 European AI Regulation, which constitutes the focus of our study. Algeria, for its part, has also been influenced by this technological wave. In recent years, the Algerian judiciary has embarked on a modernization path for public services and its judicial bodies by enacting and enforcing new legal rules to address the challenges posed by developments in information and communication technologies. This approach is evidenced by the adoption of electronic litigation and remote video hearings for investigations and witness testimonies.

* Corresponding Author

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The objective of examining electronic litigation lies in its capacity to simplify procedural steps, grant access to all case-related procedures and decisions—facilitating their review—and enable proper adjudication. Such improvements positively impact the efficiency of courts and help resolve the traditional justice system’s drawbacks, characterized by procedural delays and the onerous burden on litigants seeking their constitutional rights.

Moreover, the subject’s importance is accentuated by an analysis of European Union legislation—especially the 2024 AI Regulation—to leverage pioneering legal frameworks in this field. The aim of this study is to delve into the electronic litigation system, now one of the most prominent in practice, by examining its applications and the legal and technical obstacles hindering its implementation. It is well known that electronic litigation offers numerous advantages to the judiciary, such as expedited dispute resolution, alleviated court congestion, and enhanced access to justice for citizens. This raises the question of the extent to which it is adopted within the European and Algerian regulatory frameworks.

Accordingly, we pose the following research question: To what extent can artificial intelligence technologies contribute to improving the quality of judicial judgments without compromising guarantees of justice, given the disparity between the legislative frameworks of Algeria and the European Union?

1- The Impact of the 2024 European Artificial Intelligence Regulation on the Quality of Judicial Judgments

The European Union recognized the need for legislative intervention to regulate the use of artificial intelligence technologies within a legal framework that balances technological innovation with fundamental human rights. This approach culminated in the adoption of the European Artificial Intelligence¹ Regulation in May 2024, the world’s first comprehensive legal framework governing the development, marketing, and use of AI systems based on a risk-based methodology.

This legal instrument seeks to address the challenges posed by earlier AI applications—particularly concerns around bias, significant failures, lack of human oversight, transparency² deficits, the need for human decision-making, and the allocation of liability to developers and users of such systems³.

1.1- The General Framework of the 2024 European Regulation

The adoption of the 2024 European AI Regulation marks a turning point in the global effort to codify artificial intelligence. It represents the first comprehensive legislative attempt to establish a unified legal framework for AI systems across the European area.

In this context, we will examine the EU’s risk classification of AI systems and the provisions that arise from it.

1.2- The European Classification of AI System Risks

The European Union has adopted a preventive approach in the 2024 AI Regulation, grounded in the philosophy of regulating artificial intelligence according to risk levels. This regulation is the culmination of an extensive consultation process involving EU legislative bodies, civil society, and AI ethics experts—beginning with the White Paper on Artificial Intelligence in 2020, progressing through multiple drafts, and arriving at the final text adopted in June 2024.

This regulatory framework responds to growing concerns about the legal and ethical impacts of AI applications, particularly those affecting human rights and fundamental freedoms, such as the right to a fair trial, the right to privacy, and the principle of non-discrimination—rights enshrined in the Charter of Fundamental Rights of the European Union. Accordingly, the regulation categorizes certain AI uses—such as systems employed in risk assessment or judicial decision-making—as high-risk.

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It imposes stringent requirements on this category in terms of human oversight and legal liability. This branch will outline the Regulation’s general structure by reviewing its methodological foundations—especially risk classification—and by examining the provisions specific to sensitive judicial applications. The purpose of this analysis is to illuminate how European legislators aim to steer innovation within boundaries that protect human dignity and the rule of law, making this Regulation a vital reference for countries seeking balanced AI legislation.

The legal classification of artificial intelligence systems emerged in response to growing concerns about potential violations of rights and freedoms when deploying these systems, especially in sensitive areas such as the judiciary, law enforcement, education, and healthcare. This classification constitutes a fundamental regulatory pillar in the Regulation, since it not only describes the nature of the systems but also assigns graduated legal responsibilities to their providers and users according to the level of risk, obliging them to implement technical and administrative safeguards proportionate to those risks⁴.

If harm or damage results from a physical or virtual activity, device, or process driven by an artificial intelligence system—as well as from actions of the injured party or anyone for whom that party is responsible⁵—the operator’s liability under this Regulation is reduced accordingly. The operator is not held liable if the blame lies entirely with the injured party or with a person for whom the injured party is responsible⁶.

The European legislator has divided intelligent systems into four levels of risk.

First: Systems with Unacceptable Risk.

This category includes systems that the European Union considers to violate the core values of democratic societies and therefore must never be authorized⁷. Prominent examples are systems for covert manipulation of human behavior beyond conscious awareness—such as emotional exploitation of children or patients—social-scoring systems akin to the Chinese model, and real-time biometric surveillance tools in public spaces for law-enforcement purposes without a clear legal basis. Article 5 of the Regulation prohibits the use of these systems, with narrowly tailored exceptions related to state security or extraordinary circumstances subject to judicial approval.

These prohibited practices encompass using AI to manipulate human behavior in order to override free will, exploiting individuals’ natural vulnerabilities due to age, disability, or social and economic status, and employing AI systems for criminal-risk assessments and predictions of natural events⁸.

Second: High-Risk Systems.

This category forms the backbone of the Regulation, given its connection to fields that most affect fundamental rights—specifically the judiciary, education, employment, healthcare, public administration, and law enforcement. Article 6 deems AI systems used in legal and judicial contexts (for example, in issuing judgments or analyzing risk in parole decisions) as high risk. Providers of these systems must comply with the requirements set out in Articles 8–15, which include⁹:

1. Establishing an effective risk-management system.
2. Conducting a rigorous assessment used in bias-avoidance training.
3. Maintaining technical documentation that details the system’s characteristics and value.
4. Ensuring continuous human-in-the-loop monitoring during operation.
5. Adopting transparency and accountability standards.

This category is particularly crucial when discussing fraud-prediction systems used to evaluate defendants’ risk or crime-prediction tools, such as the COMPAS software in the United States or European judicial decision-support instruments.

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Third: Limited-Risk Systems.

These are systems that do not engage core fundamental rights but are exempted from some stringent requirements. Examples include conversational chatbots used in customer service or public information services. The Regulation also mandates that users be informed they are interacting with an automated system rather than a human being¹⁰.

Fourth: Minimal-Risk or No-Risk Systems.

This category covers AI applications for entertainment or office use—such as image filters, writing assistants, and music recommendation engines—which are subject only to light transparency requirements unless future evidence demonstrates a potential impact¹¹ on safety or rights. Article 4 grants the European Commission the power to update these classifications in line with technological developments, thereby ensuring regulatory flexibility and adaptability to future change.

1.3 - Provisions Specific to High-Risk Applications in the Judicial Field.

The European legislator has classified judicial applications of artificial intelligence as high risk, given their potential to affect the principles of a fair trial, judicial independence¹², and the exclusive applicability of the law. Annex III of the Regulation lists high-risk uses to include evidence analysis, formulation of judicial recommendations, risk assessment following a crime, or any advisory role in sentencing. Consequently, the Regulation imposes on developers and users of these systems stringent requirements aimed at reducing bias¹³, ensuring safety, and providing effective human oversight.

We will now examine the most prominent provisions the Regulation establishes in this regard.

First: Legal and Judicial Risk-Management Requirements.

Article 9 obliges providers of high-risk AI systems to implement a risk-management framework throughout the system’s lifecycle. This framework must assess the potential impact on fundamental rights, include a comprehensive procedural justice impact analysis, and involve legal experts from the early stages of development¹⁴.

Second: Guarantee of Explainability.

The Regulation emphasizes that the system’s operation must be understandable to the end user—namely the judge or judicial officer—and that the system must enable a logical explanation of its decision-making process. This principle is essential in the judicial domain, as judicial decisions must be reasoned and subject to appeal¹⁵, which is only possible if AI outputs are intelligible.

Third: Human Oversight and Final Judicial Control.

Developers of judicial AI systems must incorporate effective human oversight; the system must not operate without direct human supervision, and users must have the ability to deactivate the system if algorithmic deviation or error arises. Final decision-making authority must remain with the human judge¹⁶, and full reliance on system outputs is prohibited.

Fourth: Data Quality and Avoidance of Bias.

One of the greatest challenges for AI in the judicial field is the risk of discrimination in data, especially those drawn from court or police records. Accordingly, Article 10 requires the use of high-quality, representative data that reflect diversity and minimize the potential for discrimination against specific social groups. The Regulation also mandates periodic testing of system performance to ensure its stability and accuracy¹⁷.

Fifth: Legal Liability

The Regulation emphasizes that liability for damages arising from the use of an artificial intelligence system does not exempt the user or developer from legal accountability. Indeed, the entity that develops or employs the system may incur civil or administrative liability if the system

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gives rise to biased or erroneous judgments¹⁸, thereby opening the door to compensation claims for harm caused by intelligent systems in the judicial context.

1.4-Restrictions on the Use of Artificial Intelligence in Issuing Judgments

The European Artificial Intelligence Regulation of 2024 provides that the deployment of these systems in the judicial arena may be classified as high-risk, given their direct impact on litigants’ fundamental rights¹⁹, such as the right to a fair trial and equality before the law. Legal oversight of stakeholders in the design and operation of these systems is therefore imperative²⁰.

1.5- Liability of Developers and Users of Artificial Intelligence Systems

The growing adoption of AI in advisory roles—from decision support to sentence prediction and jurisprudence analysis—necessitates robust legal oversight of all actors involved in designing and operating these systems. Between the developer, who builds and trains the system, and the user, who applies its outputs to deliver judgments that affect individual rights and freedoms, the allocation of legal responsibility becomes critical, particularly in cases of harm or judicial deviation stemming from technical shortcomings. Distinguishing developer liability from user liability does not imply separation; rather, both must be viewed as complementary links within the digital justice ecosystem²¹.

First: Basis of Civil Liability of the Judicial System

Civil liability for developers of judicial AI systems is grounded in the notion of harm caused by defects within the judicial system. In many legal regimes—including French law and the European Regulation—this falls under product-liability principles and may encompass algorithmic bias, programming errors, or the absence of an update mechanism.

Some U.S. federal courts have addressed these concerns under corporate tort liability, mandating clear warnings regarding system use²².

Second: Delegation Obligations Imposed on Developers

The 2024 European AI Regulation imposes specific obligations on developers of “high-risk” systems, the most significant of which include:

1. Transparency and explainability of system outputs.
2. Traceability and performance monitoring.
3. Continuous human oversight.
4. Legal and social impact assessment of the system.

Providers must establish a risk-management framework throughout the development and operational lifecycle of the intelligent system²³, with civil and criminal liability contingent on the nature and severity of resultant harm.

1.6- Liability of Users of Judicial AI Systems

In this branch, we first examine the judge’s discretionary power in light of system recommendations, and then the duty of training and qualification for interacting with intelligent systems.

First: The Judge Between Discretionary Power and System Recommendations

While AI serves as an assistive tool, excessive reliance without human oversight risks undermining judicial responsibility. Jurisprudence distinguishes between supportive reliance and substitutive reliance, and several courts have affirmed that algorithms cannot replace judicial decision-making. In 2021²⁴, the French Court of Cassation rejected the use of a risk-analysis algorithm without human intervention.

Second: Duty of Training and Qualification in Handling Intelligent Systems

The Council of Europe’s Committee on the Efficiency of Justice recommends integrating AI into judicial training to ensure familiarity with algorithmic limitations, the verification of reliable data, and an understanding of the risks inherent in intelligent systems. The European

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Charter of Ethics for AI in Justice further prescribes binding guidelines for training judges to interact competently with these modern technologies.

A comprehensive legal-liability regime for AI systems must ensure that each actor bears responsibility according to their role: developers must design secure systems that uphold fundamental rights, while judges remain guarantors of justice through conscious human oversight. Consequently, updating the legal framework and embedding accountability principles across disciplines are essential to protecting rights in the age of artificial intelligence.

2-The Impact of Artificial Intelligence Applications on the Quality of Judicial Rulings in Algerian Legislation

Remote hearings have emerged as a pivotal development in the digitization of Algerian justice. The COVID-19 pandemic, with its stringent restrictions on movement and gatherings, underscored the urgency of leveraging technological solutions to maintain court operations without compromising litigants’ rights. The first practical use of this technique in Algeria took place on April 19, 2020.

2.1- The Legislative and Regulatory Framework for Regulating Remote Trials in Algeria

Remote hearings in Algeria represent a critical step in assessing the institutional and legislative readiness for integrating AI systems into the administration of justice. Audiovisual remote conferencing enables two or more participants in different locations to convene via modern electronic means. Accordingly, this section examines the legislative framework governing remote hearings in Algeria (Branch One) and the related administrative and organizational directives (Branch Two).

2.2-The Legislative Framework for Regulating Remote Trials in Algeria

Remote hearings were adopted in Algeria during the COVID-19 pandemic as a provisional measure to ensure the continuity of judicial work. The Algerian legislator, however, moved quickly to integrate this practice into the legal system in order to legitimize it and protect litigants’ rights. The existing framework remains primarily based on a series of targeted regulatory and legislative provisions.

The first official legislative step toward codifying remote trials was Law No. 20-09²⁵ of 15 June 2020, which amended and supplemented the Code of Criminal Procedure by inserting Article 11, expressly permitting remote hearings and stipulating: “The proposer may use audiovisual communication technologies between judicial authorities and correctional institutions in the course of a trial or any judicial procedure, provided that the accused and their counsel consent and that defense rights are observed. thereby reflecting the legislator’s effort to balance digital transformation with the protection of human rights.

In practice, this mechanism was first activated by a request from the Ministry of Justice on 16 April 2020, preceding the legislative amendment. It marked the first organized institutional application of remote sessions between courts and penitentiary centers—particularly for misdemeanors²⁶ in which the accused remained in custody. The Ministry further endorsed this development by issuing a procedural guide in 2021 for judges and court clerks, which set out the technical and procedural rules for conducting remote hearings and framed the relationship between courts and correctional institutions during the remote judicial process. This guide thus complements the statutory texts by providing a detailed regulatory foundation²⁷.

Despite these advances, there remains a strong demand for standalone legislation governing digital courts—or “smart justice”—in all its dimensions, including civil and administrative procedures, limits on technology use, and technical and security standards for data protection. Enacting such a law is now a legislative priority in light of the accelerating pace of digitization.

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2.3-Administrative and Regulatory Directives

Although an explicit legislative text regulating remote trials was delayed, the Ministry of Justice swiftly issued a series of administrative and organizational directives from the very outset of remote hearings to ensure the effective practical application of the technology. These instructions were addressed to judicial authorities and to rehabilitation and reintegration institutions in order to regulate the logistical and procedural aspects of the process while safeguarding litigants’ legal guarantees.

On 26 April 2020, the Ministry issued a ministerial directive outlining the core infrastructural requirements: courts and judicial councils were instructed to designate purpose-built rooms equipped with high-quality cameras and display screens, and to install encrypted software to guarantee the confidentiality of data exchanged during court sessions²⁸.

2.4-The Extent to Which Remote Trials Are Feasible for Employing Artificial Intelligence Technologies in the Judiciary

Examining the feasibility of integrating artificial intelligence into this newly established judicial context is vital, as remote trials represent a logical extension of Algeria’s digitization of justice. This model not only introduces a technical evolution in litigation methods but also opens the door to embedding intelligent tools that can enhance judicial performance and efficiency—while preserving the constitutional and legal safeguards afforded to the parties.

2.4-Potentials for Integrating Artificial Intelligence into the Remote Trials System

In this branch, we discuss the following elements:

First: Provision of infrastructure for implementing AI systems

Second: Integration of digital infrastructure as a technical basis for AI

Third: The possibility of integrating intelligent assistance systems in managing remote services

First: Provision of infrastructure for implementing AI systems

It should be noted that coordination has been carried out with the General Directorate of Prison Administration to designate secure areas within correctional institutions, enabling defendants to communicate securely with judges and attorneys while preserving the confidentiality of the defense. These spaces have also been equipped with VPN internet access and audio-visual control devices, under the supervision of an IT engineer from the Ministry of Justice. In addition, procedural manuals have been prepared for judges and court clerks, detailing all steps—from managing remote sessions and planning coordination with the rehabilitation authority²⁹, to verifying the defendant’s identity, drafting the minutes, and concluding the session electronically.

Instructions also include measures to ensure that sessions remain public despite the remote format, by providing members of the public with access to a viewing room inside the courthouse where the live transmission of proceedings is displayed, subject to general security controls within the hall. The Ministry of Justice has further recommended a periodic evaluation of the remote trial experience through reports submitted by judicial bodies every three months, encompassing achievements, technical challenges³⁰, and the level of satisfaction of litigants and attorneys.

Moreover, administrative and organizational structuring complements the legal framework by enabling the practical activation of this model, while providing precise procedural and technical guarantees. This groundwork paves the way for expanding remote trials across various branches of the judiciary and for the potential future integration of AI systems within this new court format, thereby safeguarding judicial independence and the rights of litigants³¹.

Second: Integration of digital infrastructure as a technical basis for AI

A robust digital infrastructure is among the indispensable preconditions for deploying AI in the judicial sphere. Algeria’s remote-hearing experience has demonstrated significant progress in this respect, including³²:

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1. Equipping courts and detention centers with high-quality, two-way audiovisual communication systems.
2. Establishing centralized, digital judicial databases.
3. Developing an interactive e-platform for managing services and recording attendance.
4. Expanding VPN-based networking between judicial institutions and prisons.
5. Implementing an electronic signature system in accordance with Law No. 15-04 on e-signatures and electronic authentication.

These elements form the essential groundwork for integrating AI solutions—such as intelligent case-management systems, case-classification software, and tools for analyzing adjudication timelines—thereby paving the way for the introduction of a judicial assistant capable of supporting judges in both technical and procedural tasks³³.

Third: The possibility of integrating intelligent assistance systems in managing remote services

In the context of remote trials, artificial intelligence technologies can perform multiple roles, including:

1. Identity verification through biometric algorithms during video sessions.
2. Behavioral analysis of litigants or witnesses to estimate stress or deception levels, although this practice remains ethically and legally contentious in comparative settings.
3. Automatic scheduling of hearings based on AI-driven indicators of expected duration.
4. Automated archiving and transcription of trial sessions via speech-to-text systems, thereby reducing the burden on the court clerk.
5. Recommendations on relevant judicial precedents or legal texts through an embedded intelligent legal search engine³⁴.

All of these applications require an organized and secure electronic environment—a framework Algeria has begun to establish within its national digitization strategy under government review³⁵ in recent years.

2.5- Challenges and Requirements for the Safe and Effective Use of Artificial Intelligence in the Algerian Judiciary

In this section, we will outline the challenges to safely and effectively deploying AI in the Algerian judicial system, as well as the requirements for doing so.

First: Challenges to the Safe and Effective Use of AI in the Algerian Judiciary

There remain numerous obstacles to the full adoption of AI technologies in remote courts, including: The absence of a dedicated legal framework for artificial intelligence. No regulatory texts expressly permit or limit the use of algorithms in judicial proceedings or sentencing, and doubts about the neutrality of these algorithms—essential to upholding equality before the law—have sparked debate and calls for oversight. A shortage of specialized technical expertise within the judicial apparatus, resulting in AI integration skills being acquired on an ad hoc basis. Insufficient funding allocated to the digital transformation of the justice system, since developing effective AI systems requires substantial medium- to long-term investments.

Moreover, one must not overlook the constitutional considerations surrounding the delegation of certain judicial functions to intelligent systems, particularly given the principle of judicial independence enshrined in Article 160 of the Constitution³⁶.

Second: Requirements for the Safe and Effective Use of AI in the Algerian Judiciary

Algeria increasingly needs an integrated national vision for AI within the justice sector—not merely as a technological upgrade but as an expression of the state’s commitment to robust, efficient justice. Given the technical and regulatory challenges outlined above, a central question arises: how can AI’s security and effectiveness be ensured without infringing on litigants’ rights or core judicial principles?

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Ensuring a disciplined and impactful integration of AI in the Algerian judiciary requires, first and foremost, a clear legislative framework anchored in transparency, accountability, and algorithmic oversight, alongside the establishment of dedicated regulatory bodies for judicial AI. It also calls for openness to leading international models, carefully adapted to Algeria’s specific legal and political context.

Moreover, scientific and technical training for judges, court clerks, legal engineers, and technologists forms the cornerstone of any genuine digital transformation within the judicial system. Such capacity building can only be achieved through specialized training programs and institutional collaboration between the Ministry of Justice, academic institutions, and national technical centers³⁷.

From this perspective, it becomes essential to outline a set of institutional and technical bodies capable of providing a legal framework for leveraging AI in Algeria’s justice sector³⁸ in a manner that upholds the rule of law and preserves litigants’ confidence in judicial independence and impartiality.

First: Legal and Institutional Requirements

The legal dimension serves as the primary reference framework that defines the permissible limits of AI use in the judiciary and ensures alignment with intellectual property rights and the principles of justice. Within this context, several legislative and institutional measures are necessary to guarantee the secure and effective integration of AI technologies into Algeria’s judicial system:

- I. **Enactment of a Dedicated AI Law for the Justice Sector** Introduce a standalone law—or a specific chapter within the organic law on judicial organization—governing the use of AI in judicial work, explicitly defining the types of algorithms permitted, the entities responsible for their development and oversight, mechanisms for legal accountability in cases of error or deviation, and safeguards for the protection of litigants’ personal data.

It is advisable to draw on international frameworks such as the 2024 European AI Act, which classifies certain AI systems as high-risk and requires member states to follow stringent development standards³⁹.

- II. **Establishment of an Independent National Authority for Judicial AI Oversight** Create an autonomous regulatory body tasked with:
 - a) Evaluating AI tools deployed in the judiciary.
 - b) Granting pre-approval for each intelligent system before adoption.
 - c) Monitoring compliance of applications with human rights and fair trial principles.
 - d) Handling complaints related to AI use in judicial processes.

The OECD’s 2021 report on AI Principles in Justice Systems underscores the need for a neutral entity to conduct both proactive and retrospective oversight.

- III. **Enhancement of the Supreme Supervisory Council’s Role in Technological Oversight** Amend the council’s mandate to include oversight of intelligent systems within courts—ensuring these tools do not compromise judicial independence—and adopt a dedicated code of conduct for judicial AI. This measure will help preserve litigants’ trust in the human character of trials, even with the integration of technological aids⁴⁰.

Second: Technical and Human Requirements

Ensuring the secure and effective use of artificial intelligence technologies in the judiciary can only be achieved through legislative and regulatory tools, and it also necessitates empowering both the technological infrastructure and the human resources that interact with these systems on a daily basis. Hence the need for an integrated technical and human approach that enhances the efficiency of judicial bodies while simultaneously protecting the rights of affected parties⁴¹.

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2.6 Developing the National Judicial Digital Infrastructure

Investments should be made to modernize the state’s digital backbone by:

- Establishing a comprehensive digital platform for managing case files securely and automatically, enabling service documentation and digital document exchange among judicial parties.
- Strengthening cyber infrastructure by protecting case and judgment databases from breaches or tampering and adopting reliable operating protocols.
- Equipping courts with high-quality audiovisual facilities.

The European Artificial Intelligence Board has emphasized environmental safety as a prerequisite for approving any high-risk intelligent system⁴², particularly in sensitive domains such as the judiciary.

2.7 Preparing Continuous Training Programs for Judges

Proper interaction with AI systems cannot be guaranteed without equipping judges with at least a foundational level of technical knowledge about how these systems operate and their potential risks. In this context, it is proposed to:

- Integrate judicial artificial intelligence into the core curriculum at the National School of Magistracy.
- Offer courses on algorithmic principles and legal data analysis.
- Organize training workshops for judges and court clerks on the use of intelligent systems, cybersecurity, and digital privacy rights.
- Strengthen cooperation among the Ministry of Justice, universities, and research centers to ensure multidisciplinary expertise is incorporated into the development of judicial AI.

The OECD recommendations stipulate that the judiciary should serve as a fundamental safeguard against technical alienation among judges, thereby helping to maintain balance between humans and machines within the judicial system⁴³.

3. Adopting an Open-Source Model and AI Oversight

To ensure transparency and media oversight, the state should adopt open-source intelligence information systems, allowing national experts to analyze their algorithms, verify their freedom from bias or discrimination, and modify them to align with Algerian legal and cultural specificities. The intelligent system should also be required to submit performance and risk reports under the supervision of the proposed national authority⁴⁴.

The Algerian experience in trial proceedings has revealed promising signs of digital transformation in the justice sector, exemplified by the adoption of audiovisual communication mechanisms and digital management of case files, especially during the COVID-19 pandemic. Despite legal and technical challenges, this experience fundamentally relies on expanding IT use in courts and has paved the way for serious consideration of integrating AI into the judicial function.

Conclusion:

In conclusion, artificial intelligence in the judiciary poses profound legal and ethical challenges—most notably issues of legal liability, transparency, and human oversight—which demand a comprehensive legal framework.

We thus deduce the following:

- The study confirmed that the European Union has established a regulatory system through the 2024 European Regulation, laying the foundation for a unified framework aimed at reinforcing trust in AI without overlooking fundamental rights.
- The study also showed that integrating AI into the Algerian judiciary is not merely a technical endeavor but a profound reform project requiring multidimensional legal,

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institutional, human, and technical strategies based on transparency, oversight, and digital justice. Building an intelligent judicial ecosystem in Algeria therefore calls for clear political and legislative will, alongside developing digital infrastructure, training judges, establishing independent oversight bodies, and drawing on comparative models while respecting national legal sovereignty.

On this basis, we put forward the following proposals:

- Enhance Algeria's judicial digital infrastructure by allocating dedicated budgets for the development of a smart court during the transitional phase.
- Develop a legal framework for the use of AI in courts, necessitating collaboration between legal institutions and technology companies to regulate AI-based legal decision-making.
- Enact a fundamental law specifying how AI is to be used in the judiciary, stipulating that AI-generated decisions must be subject to human review.
- Establish rules to regulate the data used by AI to ensure that the information analyzed by the intelligent system complies with privacy and security standards.
- Train judges and justice personnel in using and understanding AI technologies, enabling them to assess and supervise these technologies with legal and technical awareness.
- Create an independent authority responsible for overseeing AI systems used in the judicial field.
- Leverage European comparative experiences to formulate a national model that considers the particularities of the Algerian judicial system.

References:

¹ 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) (Text with EEA relevance). <http://data.europa.eu/eli/reg/2024/1689/oj>

² Najla Bouzid, "The European Regulation on Artificial Intelligence: Towards Legal Governance of Innovation," *European Journal of Digital Law*, Issue 5 - 2024, p. 71.

³ Premier décryptage du règlement européen sur l'intelligence artificielle (AI Act) : Vers un standard mondial de l'IA de confiance?

Marion Ho-Dac, Professor of Private Law at the University of Artois, Centre Droit Éthique et Procédures (CDEP) UR2471. <https://arxiv.org/pdf/2408.08318>

⁴ Article 10, paragraph 1, Chapter IV, of the European Directive on Civil Liability for General Artificial Intelligence, 2020.

⁵ Ammar Zoubi, "Exoneration from Product Liability by Proving Foreign Cause: A Comparative Study," *Journal of Legal Studies*, Faculty of Law, University of Sfax, Tunisia, Issue 22, 2015, p. 84.

⁶ Mohsen Mohamed Al-Khubani, "The Legal Regulation of Artificial Intelligence: A Descriptive and Analytical Study within the Framework of Emirati and European Civil Legislation," *Dar Al-Nahda Al-Ilmiya*, UAE, 2023, p. 298.

⁷ Article 05 of the European Artificial Intelligence Regulation (2024/1689), published in the Official Journal of the European Union on 13 June 2024.

⁸ The European Union's AI Act Beyond Motherhood and Apple Pie
Nathalie A. Smuha and Karen Yeung, from Part II - AI, Law and Policy, published online by Cambridge University Press: 6 February 2025, pp. 236-237.

⁹ High-level summary of the AI Act, 27 Feb, 2024. <https://artificialintelligenceact.eu>

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¹⁰ Article 52 of the European Artificial Intelligence Regulation, paragraph 1, op. cit .,

¹¹ Article 69 of the European Regulation, op. cit .,

¹² Paragraph 38, same source.

¹³ Annex III of the European Artificial Intelligence Regulation, Section 5, op. cit .,

¹⁴ Article 9 of the European Artificial Intelligence Regulation, Section 5, op. cit .,

¹⁵ Article 13, same law.

¹⁶ Article 14, same law.

¹⁷ Article 10 of the European Artificial Intelligence Regulation, Section 5, previously cited source.

¹⁸ Article 29, same source.

¹⁹ Article 6, same source.

²⁰ European Commission, Legislative Impact Assessment Report of the International Court of Justice, Brussels, 2023, p. 12. Modelop.com, Tuesday, 17 June 2025.

²¹ European Commission, op. cit .,

²² Abdullatif Al-Hamad, "Civil Liability of Artificial Intelligence System Designers: A Comparative Study," Journal of Law and Technology, Ain Shams University, Issue 5, 2022.

²³ Articles 9 to 12 of the aforementioned European Artificial Intelligence Regulation 2024.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206>

²⁴ Cour de cassation française, chambre criminelle, arrêt 1145; 13 October 2021. <https://www.coundecantation>

– European Commission for the Efficiency of Justice (CEPEJ), European Charter on the Use of Artificial Intelligence in Judicial Systems, Tuesday, 17 June. <https://www.coe.int/en/web/cepej/ai-charter> Council of Europe, Strasbourg, 2018, Charter link.

²⁵ Law No. 20-09 dated 15 June 2020, amending Ordinance No. 66-155 on the Code of Criminal Procedure, Official Gazette of the People's Democratic Republic of Algeria, Issue 34.

²⁶ Algerian Ministry of Justice, Ministerial Circular on the Launch of Remote Trial System, 16 April 2020, Communication Department, date accessed: 17 June. <https://www.mjustice.dz/ar/actualite/visiojustice-covid19>

²⁷ Algerian Ministry of Justice, Procedural Guide for Organizing Remote Trial Sessions, Directorate General of Judicial and Legal Affairs, date accessed: 17 June 2025. <https://www.mjustice.dz/ar/procedure/remote-court-guide>

²⁸ Algerian Ministry of Justice, Ministerial Instruction on Preparing Remote Court Spaces, Directorate General of Judicial and Legal Affairs, 26 April 2020, date accessed: 8 June 2025. <https://www.mjustice.dz/ar/actualite/RemotePublicGuidelines>, link 04:03

²⁹ Algerian Ministry of Justice, Procedural Guide, Organization of Remote Trials, Publications of the Directorate General for Judicial Modernization, May 2021, 04:22, date accessed: 18 June 2025. <https://www.mjustice.dz/ar/teleproc-guide>

³⁰ Algerian Ministry of Justice, Evaluation Report on the Remote Trial Experience - Second Chapter of 2021, pp. 3-5, 05:00, 2025, date accessed: 18 June. <https://www.mjustice.dz/ar/tele-audience-report>: Algerian Ministry of Justice, previously cited reference.

³¹ Abdelhakim Mohamed, "Artificial Intelligence and Privacy Protection," Journal of Law and Technology, Issue 5, 2023, p. 114.

³² Law No. 15-04 dated 1 February 2015, concerning Electronic Signature and Authentication, Official Gazette, Issue 10, p. 5.

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³³ "Digital Justice" Platform, Algerian Ministry of Justice, Part I, 2022, 10:33, 2025, date accessed: 17 June. <https://www.mjustice.dz/ar/digital-justice>: link

³⁴ Ministry of Digitalization and Statistics, National Digital Strategy 2021-2024, Official Publications, p. 23. <https://www.mdn.gov.dz/ar/strategie-numerique>

³⁵ "Digital Justice" Platform, Algerian Ministry of Justice, Part I, 2022. <https://www.mjustice.dz/ar/digital-justice>

³⁶ Constitution of the People's Democratic Republic of Algeria, 2020, Official Gazette, Issue 82, published on 30 December 2020.

³⁷ Abdelhamid Shatouh, "Digital Challenges in the Justice Sector: Between Actual Courts and the Necessity of Smart Transformation," Journal of Legal and Political Studies, University of Batna, Issue 14, 2023, p. 84.

³⁸ OECD, "Principles on Artificial Intelligence Systems," 2021. Legal and Ethical Frameworks for Justice. <https://www.oecd.org/going-digital/ai/principles/>

³⁹ European Parliament and Council, Artificial Intelligence Act (AI Act), 2024, Articles 6-8. <https://artificialintelligenceact.eu>

⁴⁰ Mourad Zerouki, "Judicial Modernization in Algeria: Between Independence and Digital Challenges," Journal of Judiciary and Legislation, University of Algiers, Issue 19, 2023, p. 44.

⁴¹ Mostafa Youssef Kafi, "E-Government in the Context of the Contemporary Scientific and Technological Revolution," Dar Raslan, Syria, 2010, p. 125.

⁴² Article 17 of the European Artificial Intelligence Regulation. <https://artificialintelligenceact.eu>

⁴³ OECD, "Judicial Training on Artificial Intelligence: Challenges and Good Practices," 2021. <https://www.oecd.org/going-digital/ai/judicial-training.htm>01:18

⁴⁴ Ben Aissa Abdelrahman, "Artificial Intelligence and the Digital Transformation of Justice: From Importation to Adaptation," Journal of Contemporary Legal Thought, University of Algiers, Issue 12, 2022, p. 73.