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Kreshnik Vukatana – Elira Hoxha – Anxhela Ferhataj

Ethical integration of AI in judicial systems: Advancing fairness, transparency, and judicial efficiency

This study assesses the perceived role of Artificial Intelligence (AI) in advancing judicial reform in Albania, with emphasis on efficiency, fairness, and transparency. A survey of 340 students in law, computer science, and computer engineering was analysed using Spearman's rank correlation to explore how perceived benefits and risks relate to support for AI in justice processes. The findings show a balanced view. Students acknowledge AI's potential to reduce delays and improve administrative coordination, yet they also express concerns about bias, limited transparency, and relying on automated tools in decisions that affect fundamental rights. They emphasise the need for clear rules, explainable systems, and strong human oversight to ensure responsible use. This research makes a pioneering contribution to understanding how future legal professionals perceive AI in transitional judicial systems, introducing an AI-Driven Justice System Framework based on the study's findings.

AI in Justice Systems – AI Ethics – Fairness – Transparency in AI – Judicial Efficiency

Integrazione etica dell'intelligenza artificiale nei sistemi giudiziari: promuovere equità, trasparenza ed efficienza giudiziaria

Questo studio analizza il potenziale dell'IA nel trasformare i sistemi giudiziari, con riferimento al contesto albanese. Un sondaggio su 340 studenti di giurisprudenza e area tecnico-informativa, esaminato tramite correlazione di Spearman, indaga il legame tra benefici e rischi percepiti e il supporto all'IA nei processi giudiziari. I risultati mostrano un cauto ottimismo rispetto alla capacità dell'IA di migliorare efficienza e ridurre i ritardi, insieme a rilevanti preoccupazioni sulla correttezza degli algoritmi impiegati, trasparenza decisionale e necessità di supervisione umana. Questa ricerca contribuisce a chiarire come i futuri professionisti valutino l'integrazione dell'IA nei sistemi giudiziari, introducendo un *AI-Driven Justice System Framework* elaborato sulla base dei risultati dello studio.

IA nei sistemi giudiziari – Etica dell'IA – Equità – Trasparenza dell'IA – Efficienza giudiziaria

Kreshnik Vukatana is an Associate Professor of Computer Science and the Head of the Department of Statistics and Applied Informatics at the Faculty of Economy, University of Tirana. Elira Hoxha is an Associate Professor at the Department of Statistics and Applied Informatics, Faculty of Economy, University of Tirana. Anxhela Ferhataj is Research Fellow at the Department of Statistics and Applied Informatics, Faculty of Economy, University of Tirana

Summary: 1. Introduction. – 2. Literature Review. – 2.1. AI's Role in Optimizing Judicial Efficiency and Workflows. – 2.2. Ethical Challenges and Societal Implications. – 2.3. Transparency, Accountability, and Public Trust. – 2.4. Actions undertaken in Europe. – 2.5. AI in Albania. – 3. Methodology. – 3.1. Participants. – 3.2. Instrument Design. – 3.3. Data Collection and Analysis. – 4. Results. – 4.1. How do students perceive AI's potential to impact efficiency, fairness, and transparency in the justice system? – 4.2. What concerns do students have regarding algorithmic bias, ethical implications, and societal impacts of AI in judicial decision-making? – 4.3. How do students evaluate the role of transparency and accountability in fostering trust in AI-driven judicial systems? – 4.4. H1: There is a significant positive correlation between students' perceptions of AI's potential to enhance judicial efficiency and their support for its application in non-critical functions (e.g., case management, document automation, preliminary evidence reviews) ($\alpha = 0.05$) – 4.5. H2: Higher perceived transparency in AI decision-making positively influences students' trust in their application for high-stakes judicial decisions (e.g., sentencing and parole recommendations) ($\alpha = 0.05$) – 4.6. H3: Students with higher ethical literacy regarding AI's societal implications are more likely to support the implementation of robust governance frameworks (e.g., AI ethics, transparency policies, and regulatory oversight) to ensure fairness, accountability, and transparency in AI systems in judicial decision-making ($\alpha = 0.05$) – 5. The AI-Driven Justice System Framework. – 6. Conclusion. – 6.1. Recommendations.

1. Introduction

Artificial Intelligence (AI) is driving a global transformation in judicial systems, offering innovative solutions to support a more efficient use of judicial resources and to enhance fairness and access to justice[1]. By automating routine processes and analyzing large datasets, AI technologies, including predictive algorithms[2], sentencing recommendation systems, and parole risk assessment tools, show clear promise for improving legal operations and addressing systemic inefficiencies. However, these advancements raise tough ethical, legal, and social questions[3]. Central to these challenges are concerns about fairness, accountability, and public trust[4]. In judicial systems already under scrutiny, AI raises pressing questions about its ability to uphold justice and protect fundamental rights.

Globally, AI's deployment in judicial systems has faced criticism for perpetuating biases embedded in historical data, disproportionately affecting marginalized communities and reinforcing societal inequities. The "black box" nature of many AI models, which are often opaque and difficult to interpret, compounds these concerns and undermines public trust[5]. This lack of transparency poses a direct threat to the principles of fairness and accountability essential to judicial integrity. These concerns are particularly critical in high-stakes areas such as criminal sentencing, parole decisions, and predictive policing, where the consequences of biased or opaque decisions can have severe

1. Lee 2025; Held–Habernal 2024; Dakalbab–Talib–Waraga et al. 2022.
2. Metsker–Trofimov–Kopanitsa 2021.
3. Barysė–Sarel 2024; Laptev–Feyzrakhmanova 2024; Simmons 2018.
4. Engel–Linhardt–Schubert 2025; Schweitzer–Conrads 2025; Di Porto–Fantozzi–Naldi–Rangone 2024.
5. Laptev–Feyzrakhmanova 2024.

and far-reaching impact[6]. As Marshall's study of the Horizon Post Office scandal demonstrates, a poorly understood and inadequately scrutinised IT system, treated as inherently reliable in court, contributed to widespread miscarriages of justice and highlights the legal and ethical risks that arise when digital systems in judicial proceedings are insulated from effective scrutiny[7].

In Albania, a nation undergoing substantial judicial reforms aimed at increasing efficiency and restoring public confidence[8], AI presents a unique opportunity to modernize legal processes. However, the success of these initiatives hinges not only on the technical implementation of AI but also on its societal acceptance and alignment with constitutional principles. Given their future roles as leaders in law, technology, and policymaking, university students provide valuable insights into society's readiness for adoption of AI in the judicial system. Albanian university students, drawn from law, information technology, and engineering disciplines, represent a critical demographic for understanding the broader implications of AI in the justice system. Their perspectives on algorithmic bias, transparency, and trust provide essential insights into the challenges and opportunities of AI-driven judicial innovations.

Despite the global discourse on AI's transformative potential in the legal field, there is a notable lack of empirical research examining the views of emerging stakeholders in transitional judicial systems such as the case of Albania. The CEPEJ mapping (Fig. 1) documents a growing number of AI tools across Europe, concentrated in low-risk workflow domains such as document search, triage, and transcription, yet Albania records no officially deployed AI systems in its courts. Precisely because the judiciary is still at a pre-adoption stage, this study is analytically important: it provides the first systematic account of how future legal and technology professionals in Albania evaluate the benefits, risks, and acceptable safeguards of judicial AI. By establishing an evidence-based baseline before tools are procured, the findings can inform the choice of use cases, the design of transparency and oversight requirements, and the sequencing of pilots, thereby guiding Albania's entry into judicial AI in a way that is aligned with both European standards and national expectations.

This study seeks to address this gap by exploring how Albanian university students perceive the integration of AI into Albanian judicial processes. Specifically, it investigates:

1. How do students perceive AI's potential to impact efficiency, fairness, and transparency in the justice system?
2. What concerns do students have regarding algorithmic bias, ethical implications, and societal impacts of AI in judicial decision-making?
3. How do students evaluate the role of transparency and accountability in fostering trust in AI-driven judicial systems?

By providing empirical insights into these critical questions, this research aims to advance global understanding of AI's role in justice. The findings will inform policymakers, legal practitioners, and technologists on designing AI systems that promote equity, fairness, and accountability, ensuring that AI integration into judicial systems aligns with fundamental legal principles.

2. Literature Review

The integration of AI into judicial systems is widely seen as transformative, with potential to streamline workflows, improve the timeliness of proceedings, and support a more efficient use of judicial resources, while increasing transparency[9]. AI has demonstrated its potential to streamline workflows, expedite case resolution, and reduce administrative burdens, making it a crucial tool for modernizing justice systems globally[10]. However, despite these benefits, AI deployment faces serious challenges, particularly regarding ethical governance, public trust, and equitable access. Ensuring that AI-driven reforms do not worsen existing

6. Bex 2025; Dakalbab–Talib–Waraga et al. 2022; Perrot 2017.
7. Marshall 2022.
8. European Commission for the Efficiency of Justice 2024.
9. Dakalbab–Talib–Waraga et al. 2022.
10. Metsker–Trofimov–Kopanitsa 2021; Nowotko 2021.

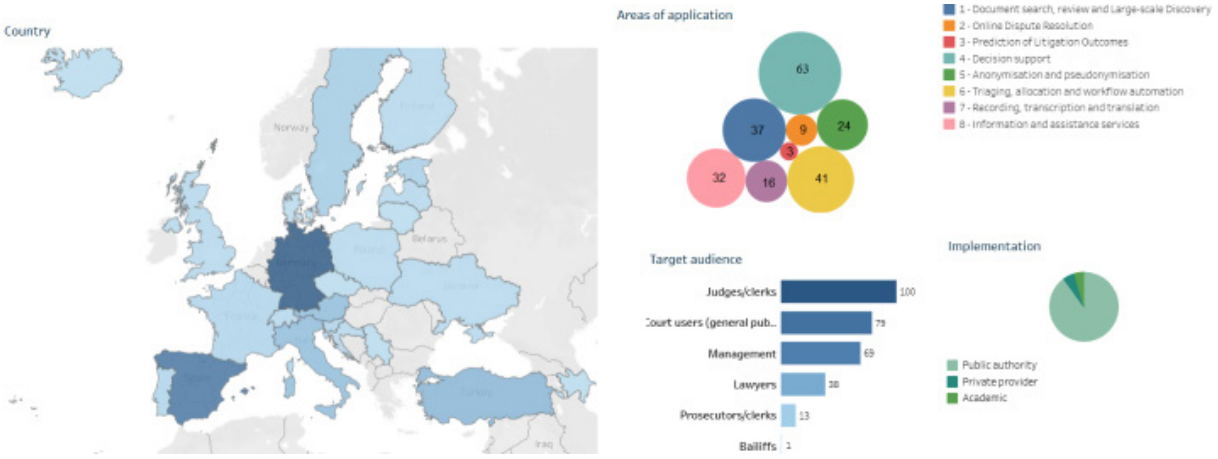

Fig. 1 — *Resource Centre Cyberjustice and AI By European Commission for the Efficiency of Justice (Council of Europe, European Commission for the Efficiency of Justice, Resource Centre on Cyberjustice and Artificial Intelligence, 2025)*

structural inequities or violate fundamental rights is vital.

In the case of Albania, a nation undergoing substantial judicial reforms to increase transparency and restore public trust, AI offers a promising opportunity. As Albania modernizes its legal infrastructure and addresses systemic inefficiencies[11], AI provides a practical pathway to achieving these goals while remaining consistent with constitutional principles and societal values.

2.1. AI's Role in Optimizing Judicial Efficiency and Workflows

Albania's efforts to address inefficiencies in its judicial system match global trends of leveraging AI to streamline workflows and reduce systemic backlogs. This alignment highlights Albania's potential to adapt international best practices for AI integration. Nowotko identifies the transformative role of advisory AI systems in civil and administrative cases, automating routine tasks such as electronic writs of payment[12]. This enables judges to focus on complex, discretionary cases, addressing a crucial need in Albania's reform-driven judiciary. Also, Nowotko warns against over-reliance on automated systems in criminal law, where maintaining fair trial principles and public trust is essential[13].

Metsker et al. stress the importance of text and data mining technologies in optimizing regulatory workflows. These tools can accelerate case analysis and improve access to legal precedents, reducing inefficiencies. However, challenges such as data inconsistencies, structural limitations, and stakeholder skepticism present serious barriers to broader adoption[14]. Their research calls for transparent, scalable, and interpretable machine learning (ML) systems that build trust and secure ethical AI integration into judicial processes. In Albania, where judicial backlogs remain an issue, such technologies could greatly support legal professionals and expedite case resolution[15].

In legal research, tools like *LaCour!*, introduced by Held and Habernal, demonstrate AI's potential to align oral arguments with judicial decisions. This tool enhances transparency by facilitating research in natural language processing (NLP) and enabling empirical analysis of dissent in judicial decision-making[16]. These innovations could im-

11. European Commission 2024.
12. Nowotko 2021.
13. *Ibidem.*
14. Metsker–Trofimov–Kopanitsa 2021.
15. European Commission for the Efficiency of Justice 2024.
16. Held–Habernal 2024.

prove transparency in Albania's judiciary, where opaque decision-making has eroded public trust. Similarly, Lee showcases *InstructPatentGPT*, which efficiently drafts legal documents, highlighting how AI tools tailored to legal domains can streamline workflows without sacrificing accuracy[17]. For Albania, adopting such tools could bridge gaps in expertise and resources, particularly in specialized legal areas.

Laptev and Feyzrakhmanova discuss the global capacity of AI to enhance organizational efficiency and decision-making[18]. Also, they caution that over-reliance on AI without defensible safeguards for transparency and accountability can be risky. They identify challenges such as algorithmic bias and data security vulnerabilities and advocate for a balanced approach that combines human oversight with AI to align with constitutional principles and make sure procedural fairness, thereby preserving public trust in judicial systems[19].

2.2. Ethical Challenges and Societal Implications

Integrating AI into Albania's judicial system requires addressing ethical concerns to make sure alignment with societal values and constitutional principles. Simmons highlights the potential of predictive algorithms in sentencing to perpetuate systemic biases. He emphasizes the need for algorithmic transparency and human oversight to ensure fairness[20]. In Albania, where judicial reforms are ongoing to address corruption and inequities, AI-driven decisions must sit with procedural justice. This shows the critical need for scrutinizing AI training datasets to prevent reinforcing pre-existing biases. Gless expands on these concerns, arguing that fully automated systems lack the interpretive nuance necessary for consequential judicial decisions, such as sentencing. He criticizes the use of robot judges, noting their inability to articulate "legal beliefs" that make sure compliance with fair trial standards[21]. Recent work on judicial decision-making and AI suggests that predictive and generative systems are not credible substitutes for the emotionally and cognitively grounded deliberation that underpins judicial reasoning, and should instead be treated as tools embedded in human-centred structures of oversight and accountability[22]. This makes clear the irreplaceable role of human judgment, particularly as Albania's judicial reforms focus on enhancing fairness and accountability.

Perrot explores the ethical challenges of predictive policing, warning against privacy infringements and the disproportionate targeting of marginalized communities. While AI-driven technologies enhance resource allocation and crime prevention, they pose risks, such as algorithmic bias and privacy violations. Perrot advocates for strong regulatory frameworks and human oversight to mitigate these risks, ensuring AI systems match ethical principles and societal values[23]. In Albania, balancing proactive law enforcement with effective oversight is critical to maintaining public trust in AI-driven solutions.

Bex presents a framework for integrating AI into legal systems, stressing the importance of collaboration across law, technology, and governance[24]. Drawing on insights from the Netherlands National Police Lab AI, Bex demonstrates how combining data-driven and knowledge-driven approaches can address ethical challenges while enhancing access to justice. His framework offers a roadmap for aligning AI development with societal values, ensuring fairness, accountability, and transparency in legal processes[25]. Recent research by Ferhataj et al. emphasizes the ethical awareness of Albanian university students regarding AI. Students express concerns about algorithmic transparency, data privacy, and the potential for AI to reinforce societal

17. Lee 2025.
18. Laptev–Feyzrakhmanova 2024.
19. *Ibidem.*
20. Simmons 2018.
21. Gless 2023.
22. Contini–Minissale–Bergman Blix 2024.
23. Perrot 2017.
24. Bex 2025.
25. *Ibidem.*

biases. They advocate for regulatory frameworks that prioritize accountability, transparency, and human oversight, critical for ensuring AI's alignment with legal and ethical principles[26].

Ilin and Kelli examine challenges surrounding AI-generated outputs and copyright in the EU, identifying issues such as lawful data access and ambiguous ownership. These challenges hinder innovation and necessitate regulatory reforms that balance innovation with ethical accountability[27]. Similarly, Szkalej and Senftleben advocate for tailored licensing frameworks to protect intellectual property while fostering innovation, offering valuable guidance for Albania as it integrates AI into its legal framework[28].

2.3. Transparency, Accountability, and Public Trust

Restoring public trust is crucial to Albania's judicial reforms, with transparency and accountability as central priorities in integrating AI within the judicial system. Engel, Linhardt, and Schubert highlight the challenges posed by opaque decision-making in tools like the *COMPAS* algorithm, which disproportionately affects underrepresented populations. They stress the importance of Explainable AI (XAI) models to improve interpretability and uphold constitutional accountability standards[29]. Their research advocates judicial oversight and public scrutiny to ensure fairness in AI decision-making. Drawing on an actor-network perspective, recent work on AI accountability in judicial proceedings argues that predictive and generative systems should be understood as components of a broader socio-technical network that support, rather than replace, the situated human deliberation and responsibility that underpin judicial reasoning[30]. These concerns are especially relevant for Albania, where public trust is vital amid ongoing reforms. Górski et al. examine the role of XAI in regulated domains such as tax fraud detection, where transparency is crucial for procedural fairness[31]. Their findings indicate that XAI models enhance interpretability and secure accountability, offering valuable insights for Albania's judiciary. These concerns about transparency and public confidence are consistent with broader findings that trust in courts is strongly shaped by perceptions of procedural fairness, openness, and opportunities to contest decisions[32]. As Albania modernizes its judicial system, transparency in AI-driven decisions is essential to building public trust and maintaining integrity in legal processes.

Barysė and Sarel investigate public perceptions of AI in judicial decision-making, finding broad acceptance of AI for low-risk tasks like evidence gathering but significant skepticism regarding its use in consequential decisions such as verdicts. Legal professionals are particularly concerned about AI's fairness and reliability in these contexts[33]. The study advocates for a phased approach to AI integration that begins with low-risk tasks to build public confidence. Comparative research on courts and artificial intelligence indicates that many judiciaries currently confine AI to low-risk, workflow-oriented tools, while remaining cautious about outcome-shaping applications because concerns about transparency and accountability in adjudication are not yet resolved[34]. This approach is well suited to Albania's ongoing judicial reforms.

Schweitzer and Conrads assess the performance of AI models like ChatGPT-4 in resolving German business law cases, showing accuracy improvements but highlighting inconsistencies in complex legal scenarios[35]. Their findings emphasize the need for human oversight, a crucial factor

26. Ferhataj–Memaj–Sahatcija et al. 2025.
27. Ilin–Kelli 2024.
28. Szkalej–Senftleben 2024.
29. Engel–Linhardt–Schubert 2025.
30. Contini–Ontanu–Velicogna 2024.
31. Górski–Kuźniacki–Almada et al. 2025.
32. Wallace–Goodman Delahunty 2021.
33. Barysė–Sarel 2024.
34. Reiling 2020.
35. Schweitzer–Conrads 2025.

in Albania's judicial system, where robust oversight mechanisms are necessary to mitigate risks and build trust in AI-driven legal tools.

Governance frameworks are fundamental to building trust in AI systems. Di Porto et al. demonstrate how advanced NLP can enhance inclusivity and reduce bias in policymaking, offering a model for Albania's public engagement in AI governance[36]. Fernández-Llorca et al. address terminological inconsistencies in the EU's AI legislation, proposing methodologies for harmonizing technical and legal interpretations, insights that are crucial as Albania drafts governance policies aligned with international standards[37].

2.4. Actions undertaken in Europe

This section maps how Europe approaches AI in justice across three layers: European Union (EU), National Member, and Council of Europe.

At the EU level, regulation is binding via the AI Act's enforceable requirements. The EU Artificial Intelligence Act, enacted in 2024, is a cornerstone of this strategy. It classifies AI applications into four risk categories: unacceptable, high, limited, and minimal. High-risk AI systems, especially those in judicial contexts, are subject to stringent requirements for transparency, data quality, and human oversight to safeguard fundamental rights and societal values[38]. Its main strength is clarity of expectations for procurement and supervision. Its main limitation is operationalisation, since key details depend on secondary standards, conformity assessments, and local capacity. There is also a governance gap between generic product-safety controls and the constitutional sensitivities of courts, such as explainability that is meaningful for legal reasoning and not only for technical audits. The EU's commitment to fostering innovation in judicial systems is further exemplified by initiatives under Horizon Europe, which funds research into cutting-edge AI applications. Notable advancements include *LaCour!*, a multilingual legal corpus for enhancing legal research, and predictive tools for case prioritization, enabling courts to allocate resources more effectively[39].

EU Member states practice is experimenting mainly in low-risk workflow areas, including transcription, document search, case triage, and calendaring. The EU's binding framework channels innovation toward safe, workflow-oriented uses, and Estonia's e-Justice architecture exemplifies how such deployments can scale in practice while preserving explainability and human control. A prominent example is Estonia's e-Justice system, which has significantly improved judicial workflows. Estonia's e-Justice ecosystem shows how integration across institutions reduces friction. The *e-File* platform, an interconnected system linking courts, police, prosecutors, and correctional facilities, reduces administrative burdens and streamline case processing, thereby enhancing collaboration among stakeholders and improving efficiency[40]. Additionally, Estonia's *Salme*, an AI-powered speech recognition assistant, automates court hearing transcriptions, improving the speed and accuracy of documentation and freeing up resources for more complex judicial tasks[41]. The upside is tangible efficiency gains without displacing judicial judgment. The downside is fragmentation. Pilots vary in quality, evaluation methods are inconsistent, and results are rarely comparable or openly audited. Known risks, such as dataset bias, vendor lock-in, and legally adequate explainability, are often acknowledged but not yet addressed with systematic controls.

At the Council of Europe level, guidance consists of non-binding soft-law instruments that steer practice without creating legal duties. *European Ethical Charter on the Use of AI in Judicial Systems* (Council of Europe) offers comprehensive guidelines for the ethical deployment of AI in legal settings, emphasizing fairness, non-discrimina-

36. Di Porto–Fantozzi–Naldi–Rangone 2024.
37. Fernández-Llorca–Gómez–Sánchez–Mazzini 2025.
38. See *The AI Act Explorer*, in "artificialintelligenceact.eu", 2024; Farrell 2024.
39. Held–Habernal 2024; Laptev–Feyzrakhmanova 2024.
40. Gamito Cantero–Gentile 2023.
41. e-Estonia 2022.

tion, and the protection of fundamental rights[42]. A key component of ethical AI deployment is XAI, which enhances transparency and accountability by enabling users to understand and evaluate AI decisions. XAI is especially critical in consequential areas like judicial decision-making, where public trust hinges on the clarity and fairness of AI recommendations[43]. Its value lies in normative alignment across jurisdictions, including non-EU members. Its limits are its non-binding status and uneven uptake. Principles do not automatically become procurement clauses, testing protocols, or user training.

2.5. AI in Albania

Albania's judicial reforms, initiated in 2016, aim to modernize legal institutions, improve transparency, and restore public trust in alignment with EU standards[44]. These efforts present a critical opportunity to integrate AI to address systemic challenges such as case backlogs, inconsistent rulings, and low public confidence in the justice system. However, Albania's ICT adoption remains well below the European average, with serious gaps in key areas like Decision Support Systems and Digital Access to Justice[45]. According to the CEPEJ ICT Index (Fig. 2), Albania's Deployment Index (2.0) and Usage Index (1.6) are significantly lower than the Council of Europe (CoE) averages of Deployment Index (4.1) and Usage Index (3.3), highlighting critical gaps in ICT adoption[46]. These deficiencies are especially evident in Decision Support Systems (1.3) and Digital Access to Justice (1.4 for civil and administrative matters), underscoring the urgent need for AI-driven innovations to improve efficiency and accessibility. Predictive analytics could reduce the current average case disposition times, 2,272 days for civil cases, while AI tools for automated document processing and case management could streamline workflows and reduce administrative burdens.

The risk of algorithmic bias and data privacy issues is particularly concerning, given the historical biases embedded in legal and enforcement datasets[47]. Also, successful AI adoption in Albania must be accompanied by defensible ethical frameworks. Albania has now overhauled its privacy framework with Law No. 124/2024 "On Personal Data Protection"[48], which is aligned with the EU GDPR[49] regulation. On the ground, GDPR alignment strengthens Albania's system in five concrete ways: (1) limits on solely automated decisions with legal or similarly notable effects and the right to human intervention, to express a view, and to contest outputs[50]; (2) duties to provide meaningful information about the logic involved, significance, and envisaged consequences of automated processing[51]; (3) mandatory Data Protection Impact Assessments for high-risk processing in justice[52]; (4) "data protection by design and by default" that pushes vendors to build audit trails, access controls, and role-based explanations[53]; and (5) accountability and transparency obligations that formalise record-keeping, notices, and audits that courts

42. European Commission for the Efficiency of Justice 2018.
43. Engel–Linhardt–Schubert 2025.
44. European Commission 2024.
45. European Commission for the Efficiency of Justice 2024-a.
46. European Commission for the Efficiency of Justice 2024.
47. Barocas–Selbst 2016.
48. Parliament of Albania, Law No. 124/2024 "On Personal Data Protection" (*Ligj nr. 124/2024 Për mbrojtjen e të dhënave personale*).
49. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).
50. Regulation (EU) 2016/679 (GDPR), Article 22(1)-(3).
51. Regulation (EU) 2016/679 (GDPR), Article 13(2)(f), Article 14(2)(g), and Article 15(1)(h).
52. Regulation (EU) 2016/679 (GDPR), Article 35.
53. Regulation (EU) 2016/679 (GDPR), Article 25(1)-(2).

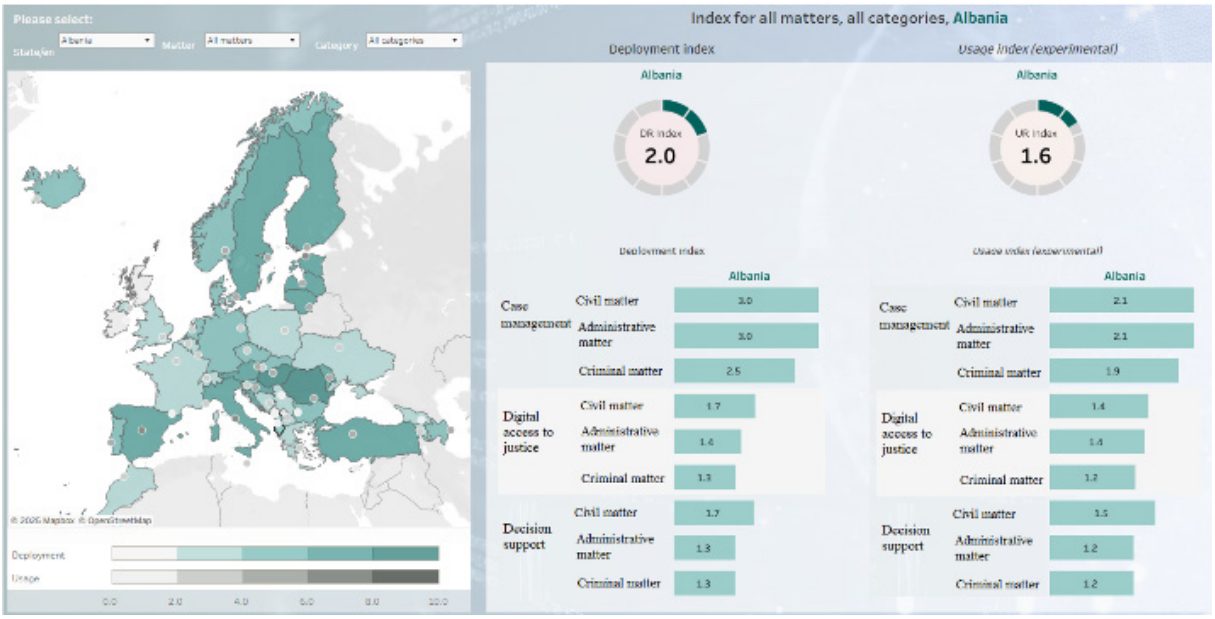

Fig. 2 — *CEPEJ ICT Index. By European Commission for the Efficiency of Justice (European Commission for the Efficiency of Justice, Report European judicial systems - CEPEJ Evaluation report - 2024 Evaluation cycle (2022 data), Council of Europe, 2024)*

and ministries can enforce through procurement[54]. These safeguards translate explainability and oversight into enforceable rights and procedures within Albanian institutions[55].

Also, AI integration requires substantial investment in human capital and public awareness. Albania's judicial professionals receive fewer ICT training sessions compared to the European average, limiting their ability to effectively adopt AI tools[56]. Targeted capacity-building programs focusing on AI literacy and ethical considerations, combined with public awareness campaigns, are essential for building support for AI within the judiciary. Given Albania's limited judicial budget (€15.8 per capita compared to €85.4 in the CoE)[57] AI solutions must be cost-effective and scalable. By addressing these challenges, Albania can leverage AI to modernize its judiciary, increase efficiency, and align with EU standards, while ensuring transparency, fairness, and accountability. This article recommends Estonia's e-Justice system as the most suitable model for Albania, particularly its *e-File* platform and AI-powered tools such as Salme for court transcription[58].

Guided by the research objectives and gaps identified in the literature, this study proposes the following hypotheses:

- H1: There is a significant positive correlation between students' perceptions of AI's potential to enhance judicial efficiency and their support for its application in non-critical functions (e.g., case management, document automation, preliminary evidence reviews) ($\alpha = 0.05$).
- H2: Higher perceived transparency in AI decision-making positively influences students' trust in their application for high-stakes judicial decisions (e.g., sentencing and parole recommendations) ($\alpha = 0.05$).
- H3: Students with higher ethical literacy regarding AI's societal implications are more likely to support the implementation of robust governance frameworks (e.g., AI ethics, transparency

54. Regulation (EU) 2016/679 (GDPR), Article 5(1)(a), 5(2), Article 12, Article 24, and Article 30.
55. Parliament of Albania, Law No. 124/2024 "On Personal Data Protection" (*Ligj nr. 124/2024 Për mbrojtjen e të dhënave personale*).
56. European Commission for the Efficiency of Justice 2024.
57. European Commission 2024.
58. Gamito Cantero–Gentile 2023; e-Estonia 2022.

policies, and regulatory oversight) to ensure fairness, accountability, and transparency in AI systems in judicial decision-making (α = 0.05).

3. Methodology

This research employs a quantitative approach within the positivist framework, analysing university students' perceptions of AI in the judicial sector. Set against the backdrop of Albania's ongoing judicial reforms and AI adoption, it provides a distinct perspective on how technological innovation intersects with legal transformation. This study evaluates students' views on the potential advantages and challenges of AI in judicial processes, while also addressing their concerns about the ethical, social, and operational impacts of AI integration.

3.1. Participants

The target population consists of Albanian university students from law, information technology (IT), and computer engineering disciplines. These students were selected due to their potential future roles as practitioners, policymakers, and technologists shaping AI's integration into the legal sector. Their insights are essential for gauging societal readiness for adoption of AI in judicial systems. A total of 340 students participated, providing a diverse sample. Participants were predominantly aged 20-24 years, with 53% female and 47% male. The academic distribution was: 40% law, 35% IT, and 25% computer engineering. Students were recruited through university networks and social media. Eligibility was screened via a questionnaire, and anonymized identifiers make sure data confidentiality.

3.2. Instrument Design

A structured questionnaire was developed to measure students' perceptions, attitudes, and ethical concerns about AI in judicial systems. The questionnaire was designed based on a thorough literature review to ensure validity and reliability[59]. Participants received brief, plain-language definitions before beginning the survey[60]. "Efficiency" was presented as outputs relative to resources, and "timeliness" referred to duration and backlogs. "Consistency" was introduced as the principle that like cases should be treated alike, with procedures and decisions applied coherently and predictably. In line with the EU Ethics Guidelines for Trustworthy AI, "fairness" was presented as the avoidance of unjustified bias and discrimination, ensuring equal treatment of individuals and groups. "Transparency" was described as the explainability, traceability, and communication of how AI tools operate in judicial processes, whereas "accountability" referred to the auditability of these tools, the minimisation and reporting of negative impacts, the management of trade-offs, and the availability of mechanisms for redress[61].

Questionnaire Structure:

- Demographics: Information on age, gender, and academic discipline.
- Knowledge and Exposure: Multiple-choice questions assessed familiarity with AI technologies and their judicial applications.
- Perceptions and attitudes (5-point Likert): judicial efficiency, transparency, accountability and human oversight, fairness, ethical concerns, trust in AI for high-stakes decisions, support for AI in non-critical court functions, and support for governance/regulatory frameworks.

The internal consistency of the questionnaire was assessed using Cronbach's alpha, yielding a value of 0.945, indicating high reliability and confirming the robustness of the instrument for this study (Tab. 1).

Estimate	Cronbach's α
Point estimate	0.945

Tab. 1 — *Frequentist Scale Reliability Statistics*

59. Dakalbab–Talib–Waraga et al. 2022; Simmons 2018; Perrot 2017.
60. European Commission for the Efficiency of Justice 2024; High-Level Expert Group on Artificial Intelligence 2019.
61. *Ibidem.*

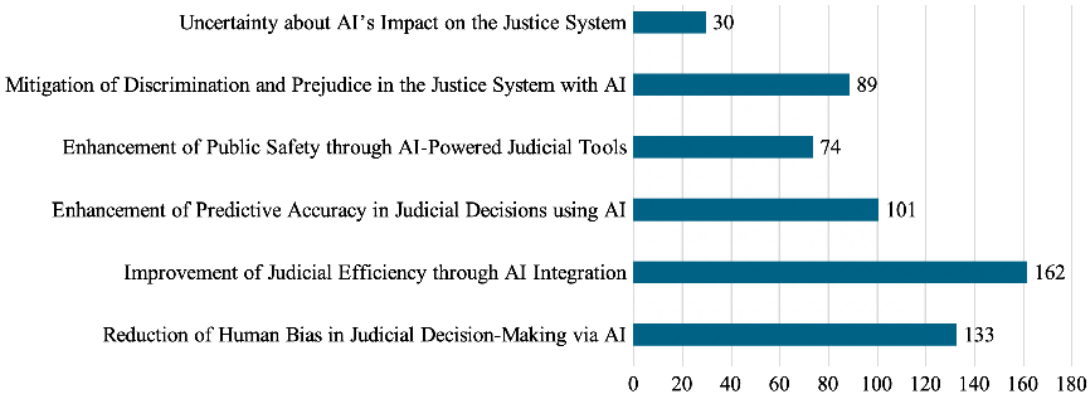

Fig. 3 — *Perceived Benefits of AI in the Justice System*

3.3. Data Collection and Analysis

Data were collected online between June and October 2024, ensuring accessibility, anonymity, and flexibility across institutions. Participants were fully informed about the study's aims, voluntary participation, and their right to withdraw at any point. Data were anonymized to safeguard confidentiality, with identifiable information excluded during analysis. Quantitative data analysis was performed using JASP 0.19.1.0. Descriptive Statistics summarized students' perceptions of AI's potential in enhancing judicial efficiency, fairness, transparency, and addressing ethical concerns. Spearman's Rank Correlation was used to explore relationships between students' perceptions and their attitudes toward AI integration in judicial processes[62]. This non-parametric method was appropriate due to the ordinal nature of the Likert scale data and its ability to detect monotonic relationships. Spearman's rank is particularly suitable for analyzing non-normally distributed data, as it does not rely on the assumption of normality. Statistical significance was set at $\alpha = 0.05$ (Type I error rate), with a 95% confidence interval.

4. Results

4.1. How do students perceive AI's potential to impact efficiency, fairness, and transparency in the justice system?

Table 2 (N = 340) reports item means (1–5) by discipline. Among IT/Computer Engineering (IT/CE) students, the highest mean is for transformative potential (3.578), followed by the ability to solve complex legal challenges (3.377), impartiality (2.966), and the enhancement of judicial efficiency (2.686). Law students show the same rank order: transformative potential (3.353), complex legal challenges (3.199), impartiality (3.11), and the enhancement of judicial efficiency (2.846). Between groups, IT/CE means are higher for transformative potential (+0.225) and complex challenges (+0.178), whereas Law means are higher for efficiency (+0.16) and impartiality (+0.144). This pattern aligns with the cohorts' training profiles, with IT/CE students emphasising innovation and analytic capability and Law students placing slightly more weight on workflow improvements and impartiality.

A deeper examination of the perceived benefits of AI in the justice system (Fig. 3) reveals that the most recognized benefit is the enhancement of judicial efficiency through AI integration, with 162 responses. The second most prominent benefit is the belief that AI can reduce human bias in judicial decision-making (133 responses). Students primarily associate AI with improving the efficiency and consistency of judicial processes. This article interprets "consistency of judicial processes" as the principle that like cases should be treated alike, and that decisions and procedures should be applied in a coherent, uniform, and predictable manner. In the students' responses, this concept appears to operate at two levels. At the systemic level, stu-

62. Lovie 1995.

Statement	Valid	Mean		Coefficient of variation	Minimum	Maximum
		IT/ Computer Engineering (204)	Law (136)			
AI's Potential to Enhance Judicial Efficiency	340	2.686	2.846	0.386	1	5
AI's Transformative Potential for the Justice System	340	3.578	3.353	0.344	1	5
AI's Ability to Solve Complex Legal Challenges	340	3.377	3.199	0.337	1	5
Perceptions of AI's Impartiality in Judicial Decision-Making	340	2.966	3.11	0.364	1	5

Tab. 2 — *Students' Perceptions on AI's Impact on the Justice System*

Statement	Valid	Mean		Coefficient of variation	Minimum	Maximum
		IT/ Computer Engineering (204)	Law (136)			
Concerns About the Negative Impacts of AI (Job Displacement, Privacy Violations, and Bias)	340	3.127	3.029	0.371	1	5
Ethical Implications of AI Use (Bias, Privacy, and Justice)	340	2.843	2.89	0.358	1	5
Impact of Growing Concerns Over Data Privacy and Security on the IT Industry	340	3.304	3.301	0.327	1	5
Concerns About Potential Biases in AI Algorithms Used in the Justice System	340	2.887	2.89	0.349	1	5
Risks of Unintended Consequences from AI, such as Hacking or Manipulation	340	3.186	3.162	0.339	1	5

Tab. 3 — *Students' Concerns Regarding AI's Ethical and Societal Impacts in the Justice System*

dents' responses reflect a strong desire to reduce unexplained differences in the outcomes of comparable cases. At the level of AI tools, it expresses an expectation that algorithms might reduce randomness or arbitrariness in decision support by applying the same criteria consistently over time. Other perceived benefits included improvements in the accuracy of case-outcome predictions and potential gains in public safety from AI-enabled tools, although these were mentioned less often.

Thirty students reported uncertainty regarding the broader role and impact of AI within the justice system. This points to the need for enhanced education and awareness about AI's capabilities and limitations, particularly for future legal professionals who must navigate the ethical complexities of AI integration into judicial decision-making. While many students regard AI as a promising instrument for legal reform, they also expressed concern about its ability to replicate human judgment and to meaningfully address enduring issues such as bias and fairness. These results emphasize the importance of continued research and education on the ethical implications of AI, as well as its potential to drive transparency and fairness in judicial decision-making.

4.2. What concerns do students have regarding algorithmic bias, ethical implications, and societal impacts of AI in judicial decision-making?

The findings, as shown in Table 3 and Figure 3, reveal students' key concerns about the ethical, algorithmic, and societal implications of AI in judicial decision-making. Generally, students express concerns across different programs to a moderate extent. The most prominent point of consensus amongst the students is that of data privacy and security, which is similar in both groups (IT/CE 3.304; Law 3.301) and exhibits the least variation (coefficient of variation 0.327). Students also keep articulating their concerns regarding the possible negative outcomes like hacking or manipulation (IT/CE 3.186; Law 3.162). The negative impact composite including job-loss, violation of privacy, and unfairness, is just over the midpoint (IT/CE 3.127; Law 3.029). When the worries are expressed in terms of biases in algorithms or ethical implications, the scores are centered around the middle of the scale (bias: IT/CE 2.887, Law 2.89; ethics: IT/CE 2.843, Law 2.89). It suggests that the students trust the technology under certain conditions. Many of them do not mind the use of AI in the courts if very effective protective measures are implemented. There is not much difference between the two fields of study. IT/CE students score only 0.098 higher in terms of negative impacts and 0.024 in unintended-consequence risks. Law students, on the other hand, score 0.047 and 0.003 higher in terms of ethics and bias respectively. The highest variability is noted for the negative-impacts composite (coefficient of variation 0.371), signifying that there are more widely spread opinions about the larger society's consequences of AI. All the factors point to a single interpretation. Privacy and security measures are the most common priority of the public, operational risks follow close behind, and concerns about bias and ethics are moderate, thus indicating the importance of privacy-by-design, strong security and visible oversight in making AI credible for the judiciary.

Figure 4 shows four main potential drawbacks of using AI in the justice system in the following order. First, the reduction of human oversight in decision making is the most common with 35% of the interviewed. Second, the decreased accountability and transparency with 26%, the familiar "black box"[63] problem. Third, the reinforcement of existing biases in data with 23%, and fourth, the perpetuation of systemic injustices with 16%. The ranking is the same across disciplines. IT and Computer Engineering students select each risk more often than Law students: oversight reduction 102 vs 61, accountability and transparency 78 vs 44, bias reinforcement 65 vs 43, systemic injustices 44 vs 33. These results point to three priorities: strong human oversight, clear explainability with audit trails, and active bias detection and mitigation.

4.3. How do students evaluate the role of transparency and accountability in fostering trust in AI-driven judicial systems?

The survey results, presented in Table 4 and visualized in Figures 5 and 6, reveal students' views on the importance of transparency, accountability, and human oversight in building trust in AI-driven judicial systems. Students are cautiously open to AI in the courts. Human oversight is the clearest priority overall (Law 3.426; IT/CE 3.299). Transparency of AI algorithms in the justice system is also rated highly, especially by law students, who assign it an average score of 3.404, compared to 3.088 for IT/CE. Students also want humans to keep the final say in AI-informed decisions (Law

63. Laptev–Feyzrakhmanova 2024.

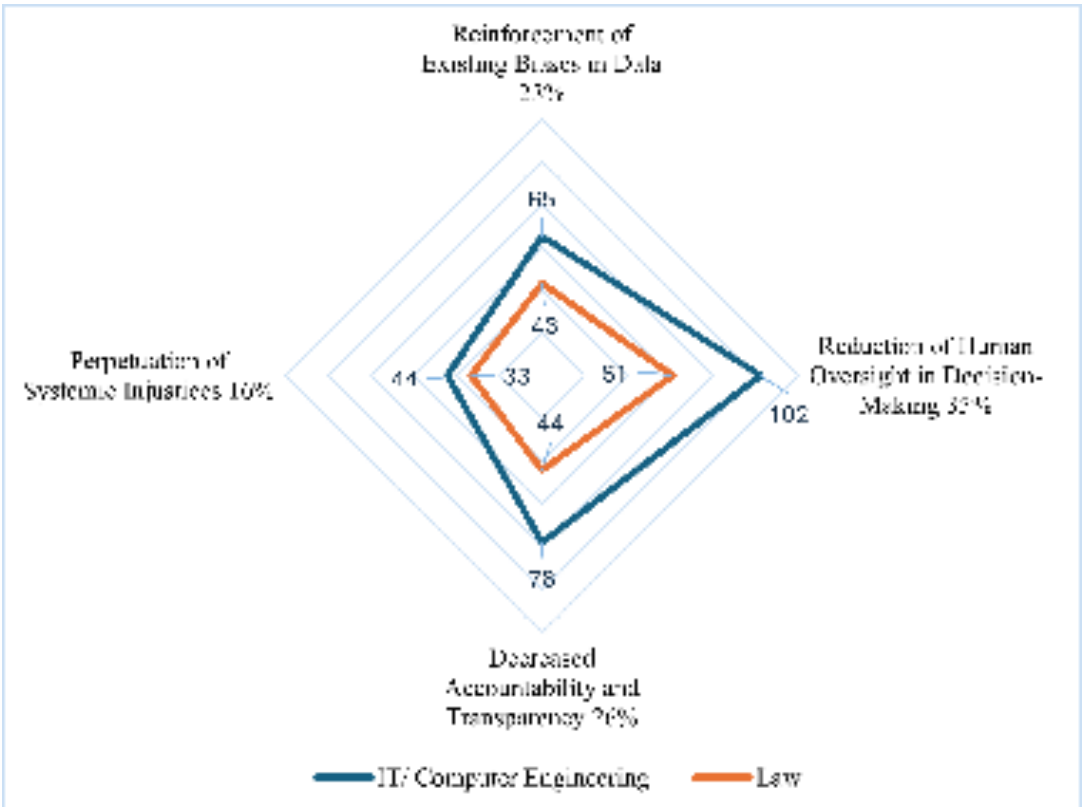

Fig. 4 — *Potential Drawbacks of Using AI in the Justice System*

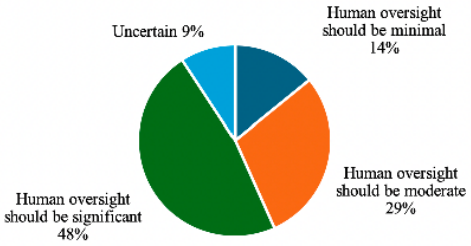

Fig. 5 — *The Role of Humans in AI Systems within the Justice System*

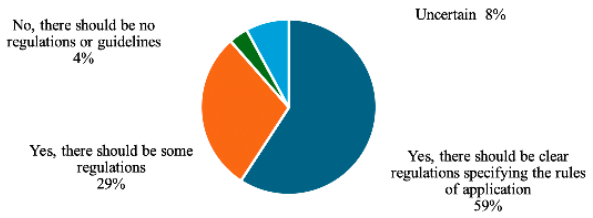

Fig. 6 — *Regulations for AI in Justice*

3.221; IT/CE 3.176) and they see value in AI training for justice professionals (Law 3.051; IT/CE 2.98). For the item on "transparency in AI systems", IT/CE students report slightly higher mean scores than law students (3.078 vs 3.007). Trust sits near the midpoint of the scale for both groups (IT/CE 2.897; Law 2.875), and views of accuracy are similarly moderate (IT/CE 2.941; Law 2.897). Support for using AI in high-stakes judicial decisions sits below the midpoint in both groups (IT/CE 2.583; Law 2.64), and this item shows the widest relative dispersion (coefficient of variation 0.429), indicating mixed views.

Differences by discipline are modest. Law students lean more strongly toward algorithmic transparency and oversight, while IT/CE students rate system-level transparency and perceived accuracy slightly higher. Taken together, the numbers point to three conditions for trust: make AI reasoning auditable, keep humans in charge at decision points, and equip legal professionals with the skills to question and contest AI outputs.

A notable majority of students (48%) demand that a human supervisor should be always present, which indicates that there is almost a universal agreement that judges should be assisted by AI and

Statement	Valid	Mean		Coefficient of variation	Minimum	Maximum
		IT/ Computer Engineering (204)	Law (136)			
Trust in AI-Driven Decisions	340	2.897	2.875	0.313	1	5
Transparency in AI Systems	340	3.078	3.007	0.31	1	5
Accuracy and Reliability of AI Predictions	340	2.941	2.897	0.332	1	5
Transparency of AI Algorithms in the Justice System	340	3.088	3.404	0.357	1	5
Human Oversight in AI Decision-Making	340	3.299	3.426	0.352	1	5
AI in High-Stakes Judicial Decisions	340	2.583	2.64	0.429	1	5
Human's Final Role in AI-Informed Legal Decisions	340	3.176	3.221	0.366	1	5
AI Knowledge Among Justice Professionals	340	2.98	3.051	0.355	1	5

Tab. 4 — *Role of Transparency, Accountability, and Human Oversight in AI-Driven Judicial Systems*

not replaced (Fig. 5). The next group of 29% supports the idea of moderate supervision, meaning that AI could take over the mundane or less critical tasks while humans would be in charge of important decisions. The least preferred option (14%) is the one with minimal supervision, where the use of clear guidelines and monitoring would allow certain operations to be performed independently. All in all, the trend suggests a human-in-the-loop approach, mainly for very important decisions.

A majority of the student population (59%) supports the implementation of definite and binding rules concerning AI usage in the legal system (Fig. 6). Just 29% are for the regulation but favor the flexible and adaptive guidelines. There are 4% who do not think that regulation is necessary at all and 8% who have no opinion. The general trend indicates a great backing for the created regulations that would limit the use of AI to legal areas, reduce the probability of the emergence of ethical issues, and at the same time, give a space for responsible innovation.

4.4. H1: There is a significant positive correlation between students' perceptions of AI's potential to enhance judicial efficiency and their support for its application in non-critical functions (e.g., case management, document automation, preliminary evidence reviews) ($\alpha = 0.05$)

The results of the Spearman's rank correlation analysis support Hypothesis 1 (H1), revealing a small to moderate positive correlation between students' perceptions of AI's potential to improve judicial efficiency in Albania's judiciary and their level of support for its application in non-critical functions such as case management, document automation, and preliminary evidence review (Tab. 5). The Spearman's rho of 0.277 indicates that as students perceive AI to be more effective in enhancing judicial efficiency, they are more likely to support its use in routine judicial tasks. This correlation is statistically significant, with a p-value of < 0.001. These findings suggest that students who view AI positively in terms of judicial efficiency are more inclined to accept its application in administrative functions that do not require subjective hu-

Variable		Students' Perceptions of AI's Potential to Enhance Judicial Efficiency	Support for AI's Application in Non-Critical Functions
Students' Perceptions of AI's Potential to Enhance Judicial Efficiency	n	—	
	Spearman's rho	—	
	p-value	—	
Support for AI's Application in Non-Critical Functions	n	340	—
	Spearman's rho	0.277***	—
	p-value	< .001	—

* p < .05, ** p < .01, *** p < .001

Tab. 5 — *Spearman's Correlation Between Perceived AI Efficiency and Support for Non-Critical Judicial Applications*

man judgment. Also, the moderate strength of the correlation (0.277) also implies that other factors, such as ethical concerns, trust in AI, and awareness of its limitations, may influence students' attitudes toward AI in the judicial system[64].

These results have important implications for policymakers and AI developers, highlighting the need to demonstrate AI's potential to enhance judicial efficiency to build broader acceptance, particularly in non-critical functions[65].

4.5. H2: Higher perceived transparency in AI decision-making positively influences students' trust in their application for high-stakes judicial decisions (e.g., sentencing and parole recommendations) ($\alpha = 0.05$)

The results of the Spearman's rank correlation analysis support Hypothesis 2 (H2), revealing a small to moderate positive correlation between students' perceptions of transparency in AI decision-making and their trust in their application for high-stakes judicial decisions, such as sentencing and parole recommendations. The Spearman's rho of 0.262 indicates that as students perceive AI decision-making processes to be more transparent, they are more likely to trust AI in sensitive legal contexts. This correlation is statistically significant (p-value < 0.001), emphasizing the importance of transparency as a critical factor in building trust in AI applications within the judicial system[66].

These findings underscore the essential role of explainability and clarity in AI systems, particularly in consequential judicial decisions where errors or perceived biases can have serious personal and societal consequences[67]. Transparency in AI decision-making is crucial for maintaining public confidence, especially in judicial contexts where the stakes are high. This supports the argument that transparent AI systems are vital for ensuring fairness and accountability in judicial decisions, in line with ethical principles of justice[68]. Additionally, these findings suggest that enhancing transparency in AI decision-making could be an effective strategy to build trust and facilitate the broader adoption of AI in high-stakes judicial functions. These results contribute to ongoing discussions about the ethical deployment of AI in the justice system, highlighting the need for clear, explainable

64. Laptev–Feyzrakhmanova 2024.
65. Engel–Linhardt–Schubert 2025; Simmons 2018.
66. Engel–Linhardt–Schubert 2025; Barysė–Sarel 2024.
67. Di Porto–Fantozzi–Naldi–Rangone 2024; Laptev–Feyzrakhmanova 2024.
68. Simmons 2018.

Variable		Perception of transparency in AI decision-making	Trust in AI for high-stakes judicial decisions
Perception of transparency in AI decision-making	n	—	
	Spearman's rho	—	
	p-value	—	
Trust in AI for high-stakes judicial decisions	n	340	—
	Spearman's rho	0.262***	—
	p-value	< .001	—

* p < .05, ** p < .01, *** p < .001

Tab. 6 — *Spearman's Correlation Between Perceived AI Transparency and Trust in High-Stakes Judicial Decisions*

AI models to secure ethical and fair decision-making[69] (Tab. 6).

4.6. H3: Students with higher ethical literacy regarding AI's societal implications are more likely to support the implementation of robust governance frameworks (e.g., AI ethics, transparency policies, and regulatory oversight) to ensure fairness, accountability, and transparency in AI systems in judicial decision-making (α = 0.05)

The results of the Spearman's rank correlation analysis provide support for Hypothesis 3 (H3), revealing a moderate-to-strong positive correlation between students' ethical literacy regarding AI's societal implications and their support for robust governance frameworks aimed at ensuring fairness, accountability, and transparency in AI systems used in judicial decision-making (Tab. 7). The Spearman's rho of 0.523 ($p < 0.001$) indicates a statistically significant correlation, emphasizing the critical role that ethical education plays in shaping students' attitudes toward responsible AI governance.

As students' awareness of AI's societal risks, such as algorithmic bias, privacy violations, and discrimination grows, so does their support for comprehensive regulatory oversight and transparent AI frameworks. This aligns with the broader literature, which shows the importance of embedding ethical principles into the design and deployment of AI systems, particularly in consequential sectors like the judicial system[70]. These findings highlight the need to incorporate ethical literacy into educational curricula for future legal and technology professionals. By building a deeper understanding of AI's broader societal implications, such education equips students to engage proactively with policies that promote fairness and accountability in AI-driven decision-making. This proactive engagement is essential for ensuring that AI is used ethically, particularly in judicial contexts, where AI-driven decisions can significantly impact individuals' rights and liberties[71].

Also, the findings reinforce the importance of ethical oversight and human involvement in AI-driven judicial decisions, a central component of the AI-Driven Justice System Framework proposed in this study. This framework advocates for a balanced approach, where human judgment remains integral, especially in sensitive judicial decisions. As AI systems are increasingly integrated into judicial processes, human decision-makers play a crucial role in ensuring ethical compliance and transparency, mitigating the risks associated

69. Górski–Kuźniacki–Almada et al. 2025; Schweitzer–Conrads 2025.

70. Bex 2025.

71. Gless 2023; Perrot 2017.

Variable		Ethical literacy regarding AI's societal implications	Support for the implementation of robust governance frameworks
Ethical literacy regarding AI's societal implications	n	—	
	Spearman's rho	—	
	p-value	—	
Support for the implementation of robust governance frameworks	n	340	—
	Spearman's rho	0.523***	—
	p-value	< .001	—

Source: Author creation

* p < .05, ** p < .01, *** p < .001

Tab. 7 — *Spearman's Correlation Between Ethical AI Literacy and Support for Judicial AI Governance Frameworks*

with unchecked AI deployment[72]. These results underscore societal concerns and the need for comprehensive, transparent AI governance frameworks to regulate AI in justice.

5. The AI-Driven Justice System Framework

This study explores the integration of AI into transitional judicial systems, with an emphasis on enhancing efficiency, fairness, transparency, and ethical governance. The data suggests cautious optimism regarding AI's potential to improve judicial efficiency, optimize workflows, and address complex legal challenges. Also, concerns about algorithmic bias, data privacy, and the need for human oversight remain serious. These insights underscore the importance of a structured framework for the responsible deployment of AI in the justice system. Accordingly, we introduce the AI-Driven Justice System Framework, designed to address these challenges while ensuring ethical, transparent, and accountable use of AI. The AI-Driven Justice System Framework combines AI's capabilities with ethical governance and public trust-building. It consists of four key components derived from the study's findings:

AI Judicial Workflow: AI can enhance judicial efficiency by automating routine tasks, such as case prioritization, document processing, and legal research, thereby reducing administrative burdens and enabling judges to focus on more complex cases. While students recognize AI's efficiency for non-critical tasks, concerns persist regarding its integration into high-stakes judicial decisions.

Transparent & Explainable AI (XAI): The framework makes clear the need for transparency in AI decision-making, especially in critical areas such as sentencing and parole. XAI safeguards that decisions made by AI systems are understandable, auditable, and accountable, building public trust.

Ethical Governance & Human Oversight: Ethical concerns, particularly algorithmic bias and accountability, are central to this study. The framework prioritizes continuous bias monitoring, regular audits, and human oversight, ensuring that judges retain final authority over decisions and minimize the risk of AI perpetuating biases.

72. Laptev–Feyzrakhmanova 2024.

Public Engagement & Trust: Building and maintaining public trust is crucial for AI's integration into the justice system. The framework encourages the development of transparency portals and educational initiatives that inform citizens about AI's role in judicial processes, promoting informed public engagement.

The AI-Driven Justice System Framework will provide a comprehensive, actionable model for integrating AI into judicial systems, emphasizing efficiency, transparency, ethical governance, and public engagement. By addressing concerns and building trust, this framework will ensure that AI-driven judicial reforms are aligned with societal values and serve the greater good.

6. Conclusion

This paper studies how future legal and technology professionals in Albania perceive the ethical integration of AI into judicial systems, at a moment when the judiciary is still at a pre-adoption stage. Drawing on survey data from 340 law, IT, and computer engineering students in Albania, it examined how they evaluate AI's potential for efficiency, fairness, and transparency; what concerns they hold about its ethical and societal implications; and how transparency and accountability shape their trust in AI-driven judicial systems. The results point to a pattern of cautious optimism: students see AI as a promising tool for improving judicial workflows and addressing complex legal problems, but only under conditions of strong human oversight, rigorous governance, and meaningful transparency.

Across disciplines, three clusters of concern emerge from the data. First, privacy and data security are consistently rated as top priorities, with students wary of hacking, manipulation, and misuse of sensitive information. Second, there is sustained unease about bias, unfairness, and the risk that AI might reproduce or amplify existing structural inequalities. Third, many respondents worry that opaque "black box" tools could weaken accountability and erode public trust if introduced without visible safeguards. At the same time, the data shows that students are more supportive of AI where they perceive higher levels of transparency and oversight, and where ethical implications are openly acknowledged and governed. Ethical literacy appears to play a particularly important role: those who are more aware of AI's societal risks are also more inclined to endorse strong regulatory and governance frameworks, rather than rejecting AI outright.

These insights are synthesized in the AI-Driven Justice System Framework proposed by this article. The framework translates students' preferences into four complementary pillars: workflow-oriented AI to relieve administrative burdens and address backlogs; transparent and explainable systems in any context where AI influences legal outcomes; robust ethical governance and human oversight, including bias monitoring, audits, and a clear human final say; and public engagement strategies that foster understanding, scrutiny, and trust. For a transitional judiciary such as Albania's, this framework provides a structured pathway for aligning AI adoption with European regulatory developments, and national expectations of fairness and accountability.

Future research should monitor changes over time, compare cross-national experiences, and evaluate specific pilot projects through published audits and user-centered testing of explanations. While AI can reduce delays, improve consistency, and allow legal professionals to focus on judgment, it should not replace that judgment. A measured, transparent, and human-guided approach offers the most credible route to real efficiency gains while safeguarding rights and maintaining public trust.

6.1. Recommendations

Grounded in the study's evidence, several analytically driven recommendations emerge for responsible judicial adoption of AI. First, AI should be deployed primarily as an assistive mechanism for non-critical, workflow-oriented tasks, while all consequential determinations remain under robust human-in-the-loop review. This division preserves judicial discretion and ensures that machine outputs support, rather than substitute, legal judgment. Second, systems must meet stringent transparency and explainability standards. This includes providing case-level rationales that allow judges and lawyers to understand and contest outputs, publicly disclosing when and where AI is used, and maintaining detailed system-level documentation covering data inputs, model limitations, and update histories. These measures create trace-

ability and make system behaviour intelligible to both professionals and the public.

Institutionalised governance structures are essential. Courts should integrate pre-deployment impact assessments, define scheduled bias and accuracy audits, and maintain comprehensive audit logs that record system recommendations and human overrides. A designated AI governance lead or office should coordinate compliance, monitoring, and inter-institutional communication. Privacy and data-protection responsibilities should follow established principles such as data minimisation, precise retention schedules, and secure, auditable access controls. These controls ensure that efficiency gains do not compromise fundamental rights.

To strengthen public trust, judicial institutions should establish a dedicated transparency portal that provides plain-language information on AI tools, their purposes, datasets, and safeguards. Regular publication of performance metrics, complaint data, and appeal outcomes linked to AI use can further reinforce accountability. Ethical and technical literacy should also be embedded through continuous training for judges, clerks, and practitioners, coupled with curricular inclusion in both law and computer-science programs. This supports a workforce capable of critically evaluating and responsibly supervising AI systems.

Finally, adoption should follow a measured pilot-to-scale pathway. Expansion should occur only when empirical indicators such as reduced time to disposition, backlog reduction, error and override rates, disparate-impact measures, satisfaction with explanations, and stable staff uptake demonstrate clear and sustained benefit. This evidence-based progression limits risk while ensuring that AI contributes meaningfully to efficiency, fairness, and institutional legitimacy.

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