THE INTEGRATION OF AI IN JUDICIAL DESION MAKING: NAVIGATING THE INTERSECTION OF TECHNOLOGY, ETHICS, AND JURISPRUDENCE

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Abstract. There is ongoing research on how the rapid advancement of artificial intelligence can benefit judiciary systems across the globe, presenting both opportunities and significant challenges. This article provides comprehensive information on how sophisticated AI tools emerged in the legal field with the spread of COVID-19 and how they have inspired judges, lawmakers, and legal professionals to utilize AI applications in judicial decision-making. Additionally, in the following thesis the use of AI in different foreign judiciary systems, such as those in China and Brazil is compared, to improve judicial efficiency, access to justice, and procedural fairness.

Keywords: Digitalization, European Union, AI applications, COVID-19, machine learning, online dispute resolution, smart courts, COMPAS, algorithmic bias, risk assessment tools, automation, automated e-filing, rules as code, technology-assisted review, open justice.

Introduction

In recent years, AI has been incorporated into nearly every aspect of our lives, from education to Medicine. Educators are eager to use AI-powered capabilities like speech recognition to increase the support available to students with disabilities, multilingual learners, and others who could benefit from greater adaptivity and personalization in digital tools for learning while doctors are exploring how AI can enable them to make a better diagnosis. However, the judiciary system has lagged due to several challenges that will be explored in this article. The application of AI in judicial decision-making is seen as a potential solution to reducing human bias, improving access to justice, and enhancing judicial efficiency. Yet, there are concerns about the risks of relying on AI, as some legal experts remain skeptical about its role in decision-making. Therefore, it

is crucial for lawmakers and judges to conduct thorough research in collaboration with AI innovators to fully understand how AI can be utilized effectively.

Impact of COVID-19 on Judiciary Systems and the Rise of AI

With the outbreak of the COVID-19 pandemic, in many countries judicial processes were delayed as court proceedings traditionally require the physical presence of plaintiffs and defendants. Likewise, some countries, such as Croatia, Cyprus and Denmark the buildings of courts and prosecution offices were closed, with the exception of hearings for "urgent cases[1]" . This raised important questions: How can judges continue to serve the public under such circumstances? Are there alternative solutions that ensure judicial efficiency without compromising fairness and accuracy?

The answer lies in technological innovations, particularly digitalization and AI applications in courts. Digitalization refers to the adoption of digital tools to create or modify existing products, services, and operations. According to the UNCTAD Handbook on Measuring Digital Trade, digitalization involves the use of digital technologies and data, resulting in new activities or modifications to existing ones. The COVID-19 pandemic highlighted the necessity of digital transformation in the judiciary, as court closures exposed inefficiencies in traditional legal processes. Physical hearings were replaced with digital hearings involving videoconferencing. For instance, in Ireland, where all parties to the proceedings used remote technology for the first time. Journalists were given access to the proceedings over a video link in order to satisfy the constitutional mandate that justice be served in public[2] .

Some recent innovations, such as the European e-Justice Portal, have enabled people businesses, lawyers and judges to file electronic lawsuits and legal documents. By giving its citizens useful information about the legal system and procedures in their native tongue, the European e-Justice portal increases the transparency of the justice systems of the Member States. The portal's content has been translated into each of the EU's 23 official languages[3]. The goal of this webpage is to raise awareness in order to give European residents better access to justice. The portal specifically includes national and European data on victims' rights in criminal cases, their compensation rights, the fundamental rights of

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[1]Fundamental Rights Agency. *Coronavirus Pandemic In The EU – Fundamental Rights Implications: With A Focus On Contact-Tracing Apps.* – Vienna: FRA, 2020. – bet 28.

[2] Ireland, RTE News. *Supreme Court sits using remote technology for the first time*. – Dublin: RTE News, 2020. – 20 aprel. (Supreme Court sits using remote technology for the first time // RTE News)Ireland,

[3] European Commission. My e-Justice Space. – Brussels: European e-Justice Portal, n.d. – (Retrieved from https://webgate.ec.europa.eu/e-justice/40172/EN/my_ejustice_space) (My e-Justice Space // European e-Justice Portal)

citizens in each Member State, and basic principles pertaining to a citizen's right to file a lawsuit in a different Member State. The portal contains a plethora of knowledge with over 12,000 pages of content. Large digital databases for gathering court rulings have also been made possible by digitization, which is a crucial precondition for the establishment of AI systems.[4] In addiotion, Online Dispute Resolution (ODR) platforms have also been implemented and are allowing disputes to be resolved virtually, ensuring judicial processes continue despite physical restrictions.[5]

AI in Judicial Decision-Making: Enhancing Efficiency and Accessibility

The usage of AI in judicial decision-making to resolve disputes is expected by many experts, considering its potential. When we talk about AI and justice, we have to take two perspectives into consideration. The first is how AI can be integrated effectively into judiciary systems and its efficiency. The second is ethical concerns regarding with the use of AI.

AI tools such as eDiscovery have been adopted in the U.S. and the U.K. to investigate information in cases before court procedures begin. AI can also provide legal advice to individuals who cannot afford expensive lawyer consultations. The adoption of AI by law firms has increased significantly, with 79% of legal professionals integrating AI into their practice. The reasons for this include:

- AI improves efficiency in client interactions, necessitating enhanced marketing strategies for law firms.

- Legal practitioners' AI usage has surged from 19% in 2023 to 79% this year.

- AI can automate 81% of tasks performed by legal secretaries and administrative assistants, and 57% of tasks performed by lawyers, significantly reducing billable hours for routine tasks. [6]

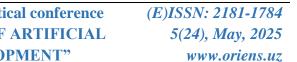### Ethical Concerns: The Case of COMPAS in the U.S. Judicial System

Despite its advantages, AI poses risks, particularly regarding bias in risk assessment tools. The COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) tool, used in the U.S. criminal justice system, predicts the likelihood of reoffending.[7] While designed to aid in bail, sentencing, and parole

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[4] EUR-Lex. *European e-Justice Strategy and Action Plan 2019–2023*. – Brussels: EUR-Lex, n.d. – (Retrieved from https://eur-lex.europa.eu/EN/legal-content/summary/european-e-justice-strategy-and-action-plan-2019-2023.html) (European e-Justice Strategy and Action Plan 2019–2023 // EUR-Lex)

[5] RAND Corporation. *Online Dispute Resolution: Perspectives to Support Successful Implementation and Outcomes in Court Proceedings*. – Santa Monica: RAND Corporation, 2021. – (Online Dispute Resolution // RAND Corporation)

[6] Moran L. *Legal professionals sceptical about AI's impact on complex tasks*. – [s.l.]: Legal Dive, 2023. – 27 iyul. (Legal professionals sceptical about AI's impact on complex tasks // Legal Dive)

[7] Dressel J., Farid H. *The accuracy, fairness, and limits of predicting recidivism*. – Washington D.C.: Science Advances, 2018. – 4(1), eaao5580. (https://doi.org/10.1126/sciadv.aao5580) (The accuracy, fairness, and limits of predicting recidivism // Science Advances)

decisions, COMPAS has faced significant scrutiny over concerns of racial bias and transparency. For instance, research by ProPublica found racial bias in COMPAS predictions:

- Black defendants were nearly twice as likely to be wrongly classified as high risk compared to white defendants (45% vs. 23%).
- White defendants were more often misclassified as low risk despite reoffending.
- Even after controlling for factors such as prior offenses, Black defendants were 45% more likely to receive higher risk scores.
- These findings highlight the necessity of ethical AI implementation in judicial systems. [8]

AI in Judiciary Systems: Global Perspectives

Many countries have adopted AI to enhance judicial efficiency. In Brazil, 47 AI programs are used in courts, and Resolution 332 ensures ethical AI implementation. The Brazilian Supreme Court's Project VICTOR and the ATHOS System of the Superior Court of Justice have greatly benefited from AI.[9] China has also pioneered AI-driven judiciary systems. In 2019, the country introduced Internet courts where cases are resolved entirely online, without human judges. AI-powered judges conduct digital hearings, reducing the need for physical court proceedings.[10]

Regulatory Frameworks: The European Ethical Charter on AI in Judiciary

In 2018, the European Commission for the Efficiency of Justice (CEPEJ) introduced the "European Ethical Charter on AI in Judicial Systems", outlining five principles:

Principle of respect for fundamental rights: ensure that the design and implementation of artificial intelligence tools and services are compatible with fundamental rights.

Principle of non-discrimination: specifically prevent the development or intensification of any discrimination between individuals or groups of individuals.

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[8] ProPublica. *Machine Bias: Risk Assessments in Criminal Sentencing*. – New York: ProPublica, 2016. – (https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing) (Machine Bias // ProPublica)

[9] De Araujo V.C.M., de Souza M.A.D. *Artificial intelligence, the Brazilian judiciary and some conundrums.* – *Paris:* Sciences Po, 2023. – 3 mart. (Artificial intelligence, the Brazilian judiciary and some conundrums // Sciences Po)

[10] Xinhua News Agency. *Beijing Internet court launches AI judge*. – Beijing: China Daily, 2019. – 27 iyun. (Beijing Internet court launches AI judge // China Daily)

Principle of quality and security: with regard to the processing of judicial decisions and data, use certified sources and intangible data with models elaborated in a multi-disciplinary manner, in a secure technological environment.

Principle of transparency, impartiality and fairness: make data processing methods accessible and understandable, authorize external audits.

Principle "under user control": preclude a prescriptive approach and ensure that users are informed actors and in control of the choices made. [11]

The European Union Commission also stated that:

"While the advantage of introducing AI-based applications in the justice system are clear, there are also considerable risks associated with their use for automated decision-making and 'predictive policing /'predictive justices'

The opacity of certain AI applications can be a challenge concerning the need to justify decisions, the equality of arms concerning parties in judicial proceedings, and other principles. Appropriate safeguards are needed to guarantee the protection of fundamental rights, including equal treatment and data protection, and to ensure the responsible, human centric development and use of AI tools where their use is in principle appropriate … It is important that judgments are delivered by judges who fully understand the AI applications and all information taken into account therein that they might use in their work, so that they can explain their decision … It is therefore important that judges and prosecutors are trained on the use of AI applications".[12]

In twelve member states European case law identifier has also been implemented.

AI's Impact on Legal Employment

AI is expected to transform the legal job market. A 2023 study by Above the Law found that:

- 71% of lawyers believe AI could replace document review roles within ten years.

- Two-thirds of respondents think law librarians may be significantly impacted by AI.

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[11] Council of Europe. (2018). *European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and Their Environment.* European Commission for the Efficiency of Justice (CEPEJ). Retrieved from https://www.coe.int/en/web/cepej/ethical-charter-on-ai1

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Despite concerns about job displacement, AI can complement legal professionals by automating routine tasks, allowing lawyers to focus on complex legal reasoning.[13]

CONCLUSION

The integration of AI into judicial decision-making presents a double-edged sword. AI applications such as eDiscovery, Online Dispute Resolution, and risk assessment tools enhance efficiency, reduce human bias, and improve access to justice. The digital transformation triggered by COVID-19 has further accelerated AI adoption in courts worldwide.

However, ethical concerns remain. The COMPAS tool has demonstrated racial bias, raising questions about fairness and accountability. Over-reliance on AI in judicial decisions may perpetuate systemic disparities. Therefore, it is crucial for governments, legal professionals, and AI developers to collaborate in establishing regulations that ensure transparency, accountability, and fairness. A balanced approach is necessary to maximize AI's benefits while mitigating its risks, ensuring a just and effective judicial system.

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