

ARTIFICIAL INTELLIGENCE IN THE COURT JUSTICE SYSTEM

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Abstract

Modern society is characterised by the pervasive presence of information and communication technologies. The growing demands of today's economy and society for enhanced and efficient products and services have led to the continual advancement of the technological sector. Among these advancements, artificial intelligence stands out as a particularly noteworthy phenomenon. Artificial intelligence entails the capacity of computer programmes to emulate human intelligence and perform a wide array of tasks. Its implementation has ushered in various advantages, allowing individuals to accomplish tasks like online banking, virtual meetings, and digital conversations without the requirement of physical presence. Despite these benefits, the adoption of new technologies also introduces potential risks to fundamental rights and freedoms, including privacy, personal data protection, and individual liberty. The application of artificial intelligence (AI) in the justice system has been a topic of growing interest and debate. AI technologies are being explored and implemented in various aspects of the justice system to improve efficiency, accuracy, and access to justice.

Key words: artificial intelligence, civil law, predictive policing, document automation.

ВЕШТАЧКА ИНТЕЛИГЕНЦИЈА У СУДСКОМ ПРАВОСУДНОМ СИСТЕМУ

Апстракт

Савремено друштво карактерише свеprisутно присуство информационих и комуникационих технологија. Растући захтеви данашње привреде и друштва за побољшаним и ефикасним производима и услугама довели су до сталног на-

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претка технолошког сектора. Међу овим напретцима, вештачка интелигенција се истиче као феномен вредан пажње. Вештачка интелигенција подразумева способност компјутерских програма да опонашају људску интелигенцију и обављају широк спектар задатака. Његова имплементација довела је до различитих предности, омогућавајући појединцима да остваре задатке као што су онлајн банкарство, виртуелни састанци и дигитални разговори без физичког присуства. Упркос овим предностима, усвајање нових технологија такође уводи потенцијалне ризике по основна права и слободу, укључујући приватност, заштиту личних података и личну слободу. Примена вештачке интелигенције (АИ) у правосудном систему је тема све већег интересовања и дебате. Технологије вештачке интелигенције се истражују и примењују у различитим аспектима правосудног система како би се побољшали ефикасност, тачност и приступ правди.

Кључне речи: вештачка интелигенција, цивилно право, предиктивно закључивање, аутоматизација документације.

INTRODUCTION

Not too long ago, there was a prevailing belief that the realms of Artificial Intelligence (AI) or Machine Learning (ML) would have minimal impact on the field of law. The legal profession, characterised by its need for specialised skills and nuanced human judgment, was thought to be inherently resistant to the transformative influence of digital advancements. However, the adoption of ML technology in the legal domain is now becoming commonplace. It is viewed as a valuable tool, not only streamlining tasks for legal professionals but also offering enhanced analyses of expansive datasets to assist in legal decision-making across global judicial systems (Ziemianin, 2021).

Another significant domain where Machine Learning (ML) is applied in judicial systems is within the realm of ‘predictive justice.’ This entails the utilisation of ML algorithms to conduct a probabilistic analysis of specific legal disputes by referencing case law precedents. To function effectively, these systems depend on extensive databases comprising past judicial decisions. These decisions must be translated into a standardised language capable of constructing predetermined models (Karmaza, et. al. 2021). These models, in turn, play a crucial role in enabling machine learning software to generate predictions.

The initial emergence of ‘predictive justice’ came to light in the United States as far back as 2013, notably in the case of *State v. Loomis*. This marked the first instance where the court employed predictive justice in the context of sentencing. In the trial involving Mr Loomis, a U.S. citizen facing charges of participating in a drive-by shooting, receiving stolen goods, and resisting arrest, the circuit court utilised a predictive machine learning tool to assist in its sentencing determination. The outcome was a custodial sentence imposed by the judge, influenced by the ma-

chine learning software's indication of a high probability of the defendant engaging in similar offenses again (Rigano, 2019).

As the use of AI technologies advances, judicial systems are becoming engaged in legal questions concerning the implications of AI for human rights, and surveillance and liability, among others. In addition, judicial systems are also using AI systems for judicial decision-making processes that have raised concerns for fairness, accountability and transparency in decision making by automated or AI-enabled systems (Vo & Plachkinova, 2023). The potential of AI is already being explored by many judicial systems that include the judiciary, prosecution services, other domain specific judicial bodies around the world, and the criminal justice field to provide investigative assistance and automate/facilitate decision-making processes.

Nevertheless, the use of AI poses a wide range of challenges to be addressed: from pattern recognition, ethics, and biased decisions taken by AI-based algorithms, to transparency and accountability. Self-learning algorithms, for instance, may be trained by certain data sets (previous decisions, facial images or video databases, etc.) that may contain biased data that can be used by applications for criminal or public safety purposes, leading to biased decisions (Rafanelli, 2022).

Considering rapid developments in this field, the challenges and opportunities related to harnessing AI in the field of justice and how AI-based systems can help judicial actors in their roles within the administration of justice and to handle cases involving AI that impacts human rights must form part of discussions among stakeholders from the judicial ecosystem (Milev & Tretynyk, 2023).

While AI presents several opportunities to enhance the justice system, there are also challenges and concerns. These include issues related to transparency, accountability, bias in algorithms, data privacy, and the potential impact on human judgment and decision-making (Yu, 2023). When we talk about human rights and data protection, some significant research was conducted in recent years (Dimovski, 2021). The results of such research show the current situation regarding the protection of human rights, the protection of personal data and so on (Djukanovic, 2021; Turanjanin, 2021). Striking the right balance between innovation and safeguarding individual rights is crucial in the ongoing development and adoption of AI in the justice system. Legal and ethical frameworks are being developed to address these challenges and ensure the responsible use of AI technologies in the legal domain.

The paper is organised as follows. The second section defines the research hypothesis, based on which the research is organised. The third section presents the investigation of AI use for legal research and analysis. The fourth section presents the investigation of AI use for predictive policing. The fifth section presents the investigation of AI use for risk as-

assessment in criminal justice. The sixth section presents the main conclusion, advantages and disadvantages of AI use in the court justice system. Finally, the last section gives a list of papers with the same field of research, which we used during our investigation.

METHODOLOGY AND RESEARCH QUESTIONS

As the application of Artificial intelligence in law and the judicial system is becoming more widespread, some of the areas of application are highlighted. In order to adequately assess the current state of application based on artificial intelligence in certain areas of law, our investigation began by setting certain hypotheses:

- Can AI-based applications be used to research and analyse legal documents and data?
- Can applications based on artificial intelligence be used to predict the commission of criminal or misdemeanour acts?
- Can AI-based applications be used for risk assessment?

The defined hypotheses are addressed by looking at the currently available expressions in this area. The answers to the previously defined hypotheses described in the continuation of the research were obtained by looking at examples of court practice. In addition to court practice, the answers were gained by looking at examples of legal practice, as well as publicly available data. The main focus was on examples of judicial and legal practice that confirm or deny the benefits of using AI. The tools that were used in specific examples were also reviewed.

AI-SUPPORTED LEGAL RESEARCH AND ANALYSIS

AI-powered tools can assist legal professionals in conducting legal research more efficiently. Legal Research and Analysis involve the process of gathering, evaluating, and interpreting legal information to support legal decision-making, case preparation, and the practice of law. The integration of technology, including artificial intelligence (AI) and machine learning (ML), has significantly impacted and improved legal research processes. Historically, legal research involved manually searching through legal texts, statutes, case law, regulations, and other legal documents to find relevant information. Legal professionals, including attorneys, paralegals, and law students, spent significant time and effort in libraries or using legal databases to gather information (Faghiri, 2022). With the advent of technology, legal research shifted from manual methods to computer-assisted methods. Online legal databases, such as Westlaw and LexisNexis, became popular tools for legal research. Elec-

tronic resources allowed for faster and more efficient searches, but the process still required human interpretation and analysis.

AI and machine learning technologies have been integrated into legal research tools to enhance efficiency and accuracy. Natural language processing (NLP) algorithms enable these tools to understand and interpret human language, improving the relevance of search results. AI-powered legal research platforms can analyse vast databases of legal information, extract key insights, and provide more nuanced and context-aware results (Katz, et. al, 2023). Natural Language Processing (NLP) stands at the forefront of the intersection between computer science, artificial intelligence, and linguistics. Its mission is to equip machines with the ability to comprehend, interpret, and respond to human language in a way that is both meaningful and contextually aware. At its core, NLP seeks to bridge the gap between the intricacies of human communication and the computational power of machines. The spectrum of NLP applications is broad, ranging from fundamental language tasks such as language translation and speech recognition to more advanced processes like sentiment analysis and text summarisation. NLP technologies power virtual assistants, chatbots, language translation services, and a myriad of applications that enhance human-computer interaction. Challenges persist, including the nuances of language, cultural variations, and the need to mitigate biases embedded in training data (Dixon & Briks, 2021).

As NLP continues to evolve, its impact on various industries, from healthcare to finance, promises to reshape how we communicate with and through technology (Mulder, Valcke, & Baeck, 2023). With advancements in deep learning and neural networks, NLP is steadily breaking new ground, bringing us closer to a future where machines truly understand and respond to human language in a natural and intuitive manner. NLP has emerged as a transformative force within the justice system, revolutionising how legal professionals analyse, interpret, and manage vast volumes of legal texts. NLP technologies bring unprecedented efficiency and accessibility to legal research, case analysis, and information retrieval, thereby reshaping the landscape of legal practices. One of the prominent applications of NLP in the justice system is legal document analysis. NLP algorithms can sift through extensive legal databases, statutes, and case law, extracting relevant information and providing legal professionals with timely insights. This capability significantly expedites legal research processes, allowing attorneys and legal scholars to focus more on strategic analysis rather than laborious information retrieval (Medvedeva, Wieling & Vols, 2023). NLP also plays a pivotal role in e-discovery, where the analysis of electronic documents for legal proceedings is a complex task. Machine learning models, powered by NLP, can rapidly categorise and identify pertinent information, aiding legal teams in document review and due diligence processes. This not only acceler-

ates the pace of legal investigations but also ensures a more thorough and accurate analysis of digital evidence. Legal professionals leverage NLP-powered tools for sentiment analysis in legal texts, helping gauge the tone and implications of statements in court documents, contracts, or public records. This nuanced understanding contributes to more informed decision-making during legal proceedings. Moreover, NLP facilitates the development of virtual legal assistants and chatbots that interact with users in a natural language. These tools enhance accessibility to legal information, guiding individuals through legal processes, explaining complex legal concepts, and even assisting in the preparation of legal documents. This democratisation of legal information empowers individuals who may not have easy access to legal counsel (Reiling, 2020). However, the integration of NLP in the justice system is not without challenges. Ensuring the fairness and transparency of algorithms, addressing potential biases in training data, and upholding ethical standards are critical considerations. Legal professionals and technologists collaborate to strike a balance between leveraging the efficiency gains of NLP and maintaining the integrity of legal processes. In summary, NLP is a catalyst for innovation within the justice system, streamlining legal workflows, improving access to legal information, and contributing to a more efficient and equitable legal landscape (Mumcuoglu, et. al. 2021). As NLP technologies continue to advance, their impact on legal practices is poised to deepen, fostering a future where legal professionals can harness the power of language to navigate the complexities of the law more effectively.

AI can aid individuals in locating desired information within extensive digital document collections. The advantages of natural language processing, as opposed to conventional keyword searches, are exemplified by the widespread use of Google. When laypeople endeavour to address legal issues independently, they typically initiate the process with a Google search. This approach is likely common among lawyers as well (Andreev, Laptev, & Chucha, 2020).

Certain providers of legal research distinguish themselves by emphasising an AI-centric approach, with many incorporating various AI techniques. Ross Intelligence, for instance, positions itself as a developer of 'AI-driven products to enhance lawyers' cognitive capabilities,' encompassing features like natural language searching and identification of 'bad law.' Nevertheless, the majority of legal research tools leverage automation and/or machine learning to assist researchers in identifying and connecting with precedents related to a specific case passage or paragraph (Evstratov & Guchenkov 2020). Many of these tools also make use of natural language processing for query purposes. Notably, LexisNexis integrates 'AI-powered features' into its legal research platforms. AustLII

similarly employs automation in its NoteUp function, which identifies documents relevant to the one being viewed¹.

Legal research also incorporates the use of expert systems. AustLII's Datalex platform, for instance, facilitates the conversion of statutes into a machine-readable format (Rodrigues, 2020). This enables users to determine the application of a statute in a specific situation by responding to a series of questions. This approach, further discussed in the following section on "Rules as Code – Implications for the Judiciary," offers the advantage of providing outputs that detail the reasons for the application or non-application of a specific provision, along with statutory references (Collenette, Atkinson, & Bench-Capon, 2023). This process is likely quicker than the traditional method of reading a statute from start to finish.

In Australia, services such as Auscript, Transcription Australia and Epiq provide courts with transcription services, some of which boast real-time transcription. Voice recognition and transcription can be automated and, globally, the speech recognition market is expected to be worth at least 18 billion USD by 2023. IBM has achieved a 5.5% word error rate (compared to the standard human error rate of 5.1%), with a 'dramatic improvement in accuracy' driving the likelihood that court reporting will increasingly be an automated process. VIQ Solutions reportedly uses AI transcription and, in 2020, they announced they had secured a contract for transcription services with Queensland's Department of Justice and Attorney-General.

Some Chinese courts use real-time voice recognition to produce court transcripts. iFLYTEK is a technology company used during some trials which translate real-time audio into Mandarin and English text. In Shanghai, at least ten courts are piloting the complete replacement of judicial clerks with AI assistants, whose role it is to transcribe cases, pull files and present digital evidence².

AI FOR PREDICTIVE POLICING

Predictive policing stands at the forefront of law enforcement innovation, leveraging advanced analytics and artificial intelligence to enhance crime prevention and resource allocation (Berk, 2021) This approach moves beyond traditional reactive strategies, aiming to forecast and proactively address potential criminal activities. At its core, predic-

¹ 'The Power of Artificial Intelligence in Legal Research' (October 2020) The Power of Artificial Intelligence in Legal Research (lexisnexis.com)

² Deputy President of Xuhui District People's Court Xu Shiliang, quoted in Sarah Dai, 'Shanghai Judicial Courts Start to Replace Clerks with AI Assistants', South China Morning Post (1 April 2020)

tive policing employs machine learning algorithms to analyse historical crime data, identifying patterns and trends that may indicate where future incidents are likely to occur (Storbeck, 2022). This data-driven approach allows law enforcement agencies to optimise their resources and deploy officers more effectively to areas with higher predicted crime rates. Key components of predictive policing include:

1. Crime Hotspot Analysis algorithms for analysing historical crime data to identify geographic areas with a higher likelihood of criminal activity. Law enforcement can then focus efforts on these hotspots to deter and prevent crimes.
2. Temporal Analysis - predictive models consider the time of day, day of the week, or specific events when assessing the likelihood of crime. This temporal analysis helps law enforcement allocate resources during periods of higher risk (Maxim, 2022).
3. Resource Allocation - predictive policing enables law enforcement agencies to allocate resources more efficiently. This may include adjusting patrol routes, increasing presence in high-risk areas, or implementing targeted interventions.
4. Preventive Strategies - law enforcement agencies can implement preventive strategies based on predictive models, such as community engagement initiatives, public awareness campaigns, or interventions aimed at addressing underlying issues contributing to crime.

While predictive policing holds promise in improving law enforcement strategies, ethical considerations and potential biases in the data used to train these models are areas of concern. It is crucial to ensure that predictive models are fair, transparent, and used as tools to support, rather than replace, human judgment in policing.

As predictive policing continues to evolve, ongoing collaboration between law enforcement, data scientists, and community stakeholders is essential to strike a balance between leveraging technology for crime prevention and safeguarding individual rights and privacy. The ethical deployment of predictive policing technologies is paramount to building trust and ensuring the equitable and just application of law enforcement strategies.

AI FOR RISK ASSESSMENT IN CRIMINAL JUSTICE

Artificial Intelligence (AI) is increasingly integrated into risk assessment processes within the criminal justice system, promising to enhance decision-making and resource allocation. The application of AI in risk assessment involves leveraging machine learning algorithms to analyse various factors and predict the likelihood of a defendant reoffending

or failing to appear in court. While these technologies offer potential benefits, ethical considerations and concerns about fairness and bias must be carefully addressed. Key aspects of AI in risk assessment are stated in the following text. One of the key aspects are predictive algorithms. By this we means that AI algorithms analyse historical data, including criminal records, demographics, and socio-economic factors, to generate risk scores. These scores aim to assist judges and parole boards in making more informed decisions about bail, sentencing, and parole [9]. In second place is individualised risk assessment which represents AI systems striving to provide more individualised risk assessments, moving away from one-size-fits-all approaches. By considering a broader range of factors, including the defendant's personal history and circumstances, these systems aim to improve the accuracy of risk predictions (Raphael Souza, Amilton & Sperandio Nascimento, 2022). Data-Driven Decision-Making represents AI systems in risk assessment relying heavily on data to identify patterns and correlations. Ensuring the quality and representativeness of the data is crucial to avoid reinforcing existing biases and disparities within the criminal justice system. Transparency and Accountability represents an Ethical deployment of AI in risk assessment, which requires transparency in how algorithms operate and the factors they consider (Douglas, et. al. 2020). Accountability mechanisms must be in place to address concerns related to biased outcomes and the potential impact on individuals, especially in marginalised communities. Human Oversight represents AI systems that can provide valuable insights, though human judgment remains essential. Judges and decision-makers should view AI-generated risk assessments as tools to inform their decisions rather than as conclusive determinants.

Selecting the optimal risk assessment tool for a given application requires trade-offs to be made between false negatives and false positives; attempts to reduce the number of false positives will increase the number of false negatives [Reference Walker23]. Tools with a low rate of false negatives (due to high sensitivity) will be most effective at protecting the public, and may garner most political support, while tools with a low rate of false positives (due to high specificity) will best protect the rights and interests of prisoners and psychiatric patients.

The optimal balance between false positives and false negatives is an ethical issue and will depend on the social and political context in which the tool is to be used (Reference Sinnott-Armstrong, Buzzi, Hyman, Raichle, Kanwisher, Phelps and Morse24). For example, the avoidance of false positives may be more important in jurisdictions with less humane detention practices than in jurisdictions with more humane practices, since the less humane the conditions of detention, the greater the harm false positives will tend to impose on the assessed individual (Jesper, 2011).

The appropriate balance between false positives and false negatives will also depend on the stage in the criminal justice process or patient pathway at which the tool will be deployed. For instance, suppose that a risk assessment tool is used to inform decisions about post-sentence detention in a setting where an individual's initial sentence is proportionate to their degree of responsibility and the seriousness of the crime. Detaining the individual beyond the end of the initial sentence thus involves imposing a disproportionately long period of detention. In this context, special care should be taken to avoid false positives, and there may be grounds to prefer a tool with a very low false positive rate to one that is overall more accurate.

However, the situation is different when a tool is used to inform parole decisions. In this context, false positives may lead to refusal of parole and an unnecessarily long period of incarceration from the point of view of public protection. Yet if we assume that the initial sentences are themselves proportionate, then the overall period of detention for 'false positive' individuals will remain within the upper limit set by considerations of proportionality. In this context it may be more important to avoid false negatives.

Matching risk assessment tools to different contexts of application thus requires trade-offs between positive and negative predictive accuracy. For each context, we must first decide which type of accuracy to prioritise to which degree, and then select a tool that reflects this priority (Suparto, Ellydar, Ardiansyah & Jose, 2023). Unfortunately, in the absence of reliable data, it is not possible to make the latter decision confidently. There is a need for studies using representative samples for relevant subpopulations, avoiding highly selected samples, and presenting performance measures that allow false negative and false positive rates to be reliably estimated for a particular application.

Some U.S. jurisdictions use AI systems to augment and, in part, replace judicial discretion in the prediction of the likelihood that an accused (re)offends in the context of criminal bail and sentencing decisions. For example, the Correctional Offender Management Profiling for Alternative Sanctions tool (COMPAS) is used to conduct risk assessment by drawing on the historical data of offenders and analysing that data to produce an output based on the particular offender's conduct and background. COMPAS integrates 137 responses to a questionnaire, which includes questions ranging from the clearly relevant consideration, 'How many times has this person been arrested before as an adult or juvenile', to the more opaque 'Do you feel discouraged at times'. Importantly, the code and processes underlying COMPAS is secret, and thus not known to the prosecution, defence or judge. COMPAS was developed in 1998, and can be used firstly to predict the likelihood that an accused will fail to appear for trial (the 'Pretrial Release Risk' scale), secondly, to predict the

likelihood that an offender will commit subsequent offences (the ‘General Recidivism’ scale), and thirdly, to predict the likelihood that an offender will commit a violent act in the future (the ‘Violent Recidivism’ scale) (Bell, et. al. 2022). The outcome of each assessment can be used by a court to determine, for example, whether the accused should be released on bail pending trial or be subject to a suspended sentence (recognisance release order) in lieu of a custodial sentence. COMPAS, and risk assessment tools like it, predict the future behaviour of individuals who are either accused of criminal wrongdoing or are incarcerated after having been convicted of a crime. Factors that risk assessment tools might take into account include education and employment, family, socioeconomic and geographical background, and association with convicted criminals by way of family or broader networks. COMPAS has faced a superior court challenge in the U.S. In 2013, Eric Loomis was charged and convicted in relation to a drive-by shooting. The Circuit Court noted that COMPAS had indicated that Loomis had a high risk in each of the pretrial recidivism, general recidivism and violent recidivism scales. On appeal, the Supreme Court of Wisconsin was asked whether the use of the COMPAS tool in sentencing violates a defendant’s right to due process, either because the secret nature of COMPAS prevents defendants from challenging the assessment’s scientific validity, or because COMPAS assessments take gender into account. Justice Bradley, in delivering the reasons of the Court, held that the use of COMPAS by a court was permissible, so long as the judge made the final determination as to the sentence³.

In a 2016 investigation, the non-profit ProPublica looked at about ten thousand criminal defendants in Broward County, Florida, whose penalty consequent on the finding of criminal guilt had been, at least in part, informed by COMPAS. ProPublica’s analysis found that African American defendants were at an increased risk of receiving a false positive COMPAS score (meaning that they were more likely to be flagged as high risk despite not, in fact, being high risk), whereas white defendants were more likely to receive a false negative COMPAS score (meaning that they were more likely to be flagged as low risk despite not, in fact, being low risk)⁴.

³ Loomis v Wisconsin , 26 June 2017, Docket no 16-6387

⁴ Angwin et al (n 79); cf Matthew G Rowland, ‘Technology’s Influence on Federal Sentencing: Past, Present and Future’ (2020) 26 Washington and Lee Journal of Civil Rights and Social Justice 565, 611 who argues that a ‘single report or study alone is not enough to provide a definitive assessment of the technology’. See further ‘Injustice Ex Machina: Predictive Algorithms in Criminal Sentencing’, UCLA Law Review (19 February 2019) (‘Injustice Ex Machina’) who says that the inaccuracy of the false positive rate is a necessary trade-off for the accuracy of the true positive rate, and so ultimately comes down to a developer’s notion of justice and fairness as a balance between defendant and community interests

CONCLUSION

Artificial intelligence brings many benefits to traditional social concepts by helping with efficiency and effectiveness in performing many business and private activities, faster and better than a human can do. The fields of application of artificial intelligence are numerous and include important sectors such as agriculture, transport, hospitality, tourism, health, sports, art, etc. Bearing in mind that artificial intelligence directly affects the lives of citizens and the functioning of society, legal systems and legal science should not remain silent on its appearance and the increasing use of new technologies in everyday social and business activities. As AI technologies permeate various facets of legal processes, from legal research and case prediction to courtroom proceedings, they offer unparalleled efficiency, data-driven insights, and improved access to justice. Some of the most important advantages and disadvantages of using AI in the judicial system are given in Table 1.

Table 1. Advantages and disadvantages of the AI use court justice system

Advantages	Disadvantages
<i>AI-supported legal research and analysis</i>	
Efficiency and speed	Reliability and trust issues
Accuracy and consistency	Complexity and understanding
Enhanced search capabilities	Privacy and confidentiality concerns
Cost-effectiveness	Integration and adoption challenges
Comprehensive data analysis	Legal and ethical considerations
<i>AI for predictive policing</i>	
Crime prevention and resource allocation	Bias and discrimination
Data analysis and pattern recognition	Privacy and civil liberties concerns
Improved public safety	Reliability and accuracy
Cost-effectiveness	Ethical and legal challenges
Enhanced investigations	Community trust and relations
<i>AI for risk assessment in criminal justice</i>	
Rapid processing	Bias and fairness
Objective analysis	Transparency and accountability
Enhanced predictive accuracy	Over-reliance on technology
Resource optimization	Privacy and ethical concerns
Improved public safety	Implementation challenge
Scalability	

As the justice system continues to evolve, embracing AI technologies offers a powerful tool for efficiency, accessibility, and informed decision-making. Striking a harmonious balance between technological innovation and ethical considerations will be pivotal in shaping a justice system that is both technologically advanced and inherently just. The journey into this new era requires ongoing vigilance, collaboration, and a commitment to upholding the principles of fairness, transparency, and the rule of law.

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ВЕШТАЧКА ИНТЕЛИГЕНЦИЈА У СУДСКОМ ПРАВОСУДНОМ СИСТЕМУ

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Резиме

Употреба информационо комуникационих технологија несумњиво заузима најзначајније место у свакодневном животу и раду људи. Последњих година посебан акценат стављен је на вештачку интелигенцију као једну од области са тренутно најбржим развојем. Несумњива је чињеница да се алгоритми и принципи вештачке интелигенције не могу применити подједнако прецизно у свим областима људске делатности. Као једна од области све чешће примене издваја се судска пракса. Ово је можда једна од области где се примена вештачке интелигенције уводи са великом пажњом. Зависно од домена судске праксе, као и

домена и степена примене резултата добијених применом алгоритама вештачке интелигенције разликује се и даље учешће човека у доношењу одлука. Управо из ових разлога циљ овог рада био је сагледавање тренутног стања употребе вештачке интелигенције у судском правосудном систему широм света. Као једна од најчешћих области примене издваја се правно истраживање и анализа. На основу самог начина употребе и свега онога на чему се примена вештачке интелигенције базира истраживањем у правном домену сматра се прикупљање и обрада велике количине информација. Практично применом различитих метода могу се прикупити информације које су исте тематике као и случај на коме судије, приправници, адвокати, студенти права и остали судски запосленици раде. Примена оваквих метода доприноси убрзању у погледу процеса доношења одлука, јер се смањују напори запослених у погледу ручног претраживања и анализирања судских података и списка. Ово посебно долази до изражаја у судовима и правосудним системима у којима је обављена дигитализација података и судских списка. Поред тога, претрага и анализирање података доступних у дигиталним библиотекама постаје много приступачнија и бржа у односу на сате проведене у ручној претрази. Још једна од области примене јесте процена ризика и доношење одлука. Ова област примене сваким даном добија све више на значају, посебно у домену процене ризика. Неке од области процене ризика су непојављивање на суду, бегство, као и могућност понављања прекршајног или кривичног дела. Свака процена ризика базира се на предиктивним алгоритмима који се примењују над великим скупом историјских података, записника са суђења, демографских и социоекономских фактора, а све у циљу што ефикасније процене и доношења одлука. Када се ради о примени вештачке интелигенције у правосудном систему посебна пажња се посвећује етичким принципима и примени истих приликом доношења одлука. С тим у вези, постоји велики број аутора који изражава своје неслагање када се ради о доношењу одлука базираних искуључиво на предиктивном закључку добивеном употребом вештачке интелигенције. Са друге стране, све већа употреба вештачке интелигенције у судској пракси широм света показује да бенефити употребе преовладавају.