

SOME CONSIDERATIONS REGARDING THE USE OF ARTIFICIAL INTELLIGENCE IN LAW ENFORCEMENT

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The Context

In the late 20th century, AI technologies were primarily focused on academic research and had limited application in the legal domain. Early AI systems, such as expert systems and rule-based systems, were explored for legal applications, including legal reasoning and legal knowledge representation. The 2000s saw the emergence of data-driven approaches in AI, such as machine learning, which provided new possibilities for analysing legal data and supporting decision-making. AI technologies were gradually employed in various legal tasks, such as document review, contract analysis, and legal research, to improve efficiency and accuracy.

Predictive Analytics and Risk Assessment. Around the 2010s, predictive analytics gained attention in criminal law. Machine learning algorithms were used to analyse historical crime data and make predictions about crime patterns, recidivism rates, or the likelihood of an individual reoffending. Risk assessment tools based on AI were developed to assist judges and parole boards in making decisions about pretrial release, sentencing, or parole. However, concerns about bias, fairness, and the transparency of these algorithms started to arise, leading to debates about their reliability and potential negative impact.

Biometrics and Surveillance. AI-based biometric technologies, such as facial recognition and fingerprint analysis, have been adopted by law enforcement agencies for identification and surveillance purposes. The use of AI in video surveillance systems enables automated analysis of large volumes of video footage to detect and track potential criminal activities. These applications raise privacy concerns and challenges related to accuracy, bias, and the potential for discriminatory outcomes.

Artificial Intelligence – A Problem of Conceptualization

In the context of AI-driven crime analytics, AI can be used to organize, categorize, analyse, and interpret suspicious activity reports and evidence and, in particular, electronic evidence (such as online shopping, financial transactions, emails, chat logs, social media posts, and the corresponding subscriber and traffic data) with the aim of consolidating the prosecution files.

The concept of artificial intelligence has changed over time. The legal definition of AI is not yet uniform. However, some countries are in the first stages of developing appropriate legal frameworks. The general spirit characterizing these laws is to define the relationship between the law and the limits of the application of artificial intelligence. The main legal, current and future challenges seem to consist in the analysis of ideas on the legal personality of the AI and the determination of civil and criminal liability in cases of damages caused by intelligent machinery in a way autonomous or by third parties, or their users.

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The phrase “legal personality” means the ability of a subject of law to exercise rights and assume obligations, in a given legal system. When we mention legal personality in the context of the law, what comes to mind are natural persons and legal persons as holders of this personality. In order to talk about the legal personality of Artificial Intelligence, the latter must meet certain criteria and go through several evaluation filters. The aspect of legal personality will be evaluated in relation to rights, obligations and legal responsibility. As for the ability of Artificial Intelligence to carry rights and take on obligations, we also addressed it in the preceding issue. If the AI were to be recognized as having full legal personality, then it could exercise ownership, enter into contracts, hold bank accounts, conduct legal proceedings or create, possess, purchase and sell intellectual property (Mecaj, 2022).

Artificial Intelligence cannot be categorized as a person within the meaning of the law. It is true that the creations of Artificial Intelligence are something that our legal system has never encountered before, they are neither property nor people (Imran, 2020). Many authors compare the legal situation of Artificial Intelligence today with those of the “quasi-person”³ that law once encountered. Many authors compare the legal situation of Artificial Intelligence today with those of the “quasi-person” that law once encountered. Referring to the legal personality of Artificial Intelligence, other jurists are of the opinion that as long as the discussion about the moral and ethical conduct of the AI makes sense, then the legal discussion on the recognition of the legal personality of Artificial Intelligence would also make sense (Chopra & White, 2021: 4). Legal personality is an important step on the path to the full achievement of constitutional rights, because the moment the AI is recognized as a person, in the sense of the law, then the constitutional protection comes into play (Willick, 2021: 2).

In April 2021, the European Commission proposed the first EU regulatory framework for AI. It says that AI systems that can be used in different applications are analysed and classified according to the risk they pose to users. The different risk levels will mean more or less regulation. Once approved, these will be the world’s first rules on AI. Parliament’s priority is to make sure that AI systems used in the EU are safe, transparent, traceable, non-discriminatory and environmentally friendly. AI systems should be overseen by people, rather than by automation, to prevent harmful outcomes. Parliament also wants to establish a technology-neutral, uniform definition for AI that could be applied to future AI systems.

AI systems fall into eight specific areas that will have to be registered in an EU database:

- Biometric identification and categorization of natural persons
- Management and operation of critical infrastructure
- Education and vocational training
- Employment, worker management and access to self-employment
- Access to and enjoyment of essential private services and public services and benefits
- Law enforcement
- Migration, asylum and border control management
- Assistance in legal interpretation and application of the law.

On 14 June 2023, MEPs adopted Parliament’s negotiating position on the AI Act. The talks will now begin with the EU countries in the Council on the final form of the law. The aim is to reach an agreement by the end of this year.



Policing and Law Enforcement Affected by Artificial Intelligence

Technology based on artificial intelligence is influencing every part of our personal and professional lives. The same is true with policing. Police personnel have been employing software for crime prevention, crowd control, and facial recognition for a number of years.

Artificial intelligence technology was mostly the focus of science fiction films and books a few decades ago. Today, this kind of technology is being used in law enforcement as well as other facets of our life. Robots are assisting in policing both high security and risky places like power plants and building sites, as well as low security areas like malls.

Algorithms are used in AI technology to quickly examine vast volumes of data. As the software picks up on human activities, it eventually has the capacity to imitate and predict future behaviour. The adoption of AI in law enforcement is projected to increase as the technology's capabilities and accuracy advance.

One of the most widely used applications of AI technology is facial recognition. Police personnel can positively identify someone thanks to facial recognition technology. They are no longer required to manually cross-reference IDs between several databases. Most of these software programs not only capture an actual image but also biometric information. More precise identification is made possible by biometric data.

Face recognition technology is used by law enforcement agencies all around the world to:

- more easily find people they are looking for;
- reduce the likelihood of false positives when identifying persons in photos;
- determine the identities of the hurt or unconscious victims of accidents;
- retroactively verify a person's identity and compare it to databases already in existence.

Concerns about bias in facial recognition are undoubtedly extremely significant, and they are caused by the skewed data sets we provide for it to learn from. These machines will become smarter as we expand the data sets we use, and provide them with more varied material to learn from.

Software with artificial intelligence can evaluate enormous amounts of data, including CCTV feeds. The machine, in addition to looking for faces, can spot trends, patterns of behaviour, and other correlations considerably more quickly than people could. Humans are far behind technology in terms of the amount of data that can be evaluated.

While analysis is the cornerstone of all AI applications, it is machine learning that allows the software to come to decisions that resemble those of a human. AI can forecast the future using those findings. Even though it seems simple, machine learning requires time and multiple iterations before an algorithm can reach a meaningful conclusion. Human conduct is complicated and is motivated by a multitude of factors. In the future, it is theoretically feasible for software to pick them all up and use them. However, AI is currently supporting police officers and law enforcement in a supportive capacity. As of right now, technology cannot replace human police.

The amount of documentation that officers must complete after attending incidents has been criticized by police departments around the world. Making and maintaining case files takes police off the streets and jeopardizes public safety.

Adding that reducing case reports would also be problematic because they frequently serve as the cornerstone of a successful criminal prosecution. AI can assist by automatically collecting the necessary



data, reducing the time police spend reporting. Officers may need to analyse and comment the data that have been gathered, but they will probably spend a lot less time doing so than it would have taken them to do everything manually.

By patrolling shopping malls, electricity networks, etc., robots are enhancing, monitoring, and securing low-risk and high-risk locations. These robots are employed to access places where patrolling or monitoring by humans is difficult or impractical.

Drones can perform essential remote monitoring and inspections on the region being monitored or patrolled without the need for human interaction. Due to its aerial capabilities, the drone can investigate structures that are challenging to access from the ground.

The landscape of law enforcement has undergone a profound change as a result of the rise of artificial intelligence (AI), notably in the area of predictive policing. Data analytics are used in predictive policing to foresee and stop criminal behaviour before it happens. Law enforcement organizations may now use AI technologies to analyse huge datasets in real-time and find patterns and trends that can be used to predict future criminal activity or pinpoint high-risk regions. By more effectively allocating resources and acting in situations before they escalate into serious crimes, these predictive capabilities enable law enforcement to be more proactive.

Predictive policing relies heavily on machine learning algorithms, an essential part of artificial intelligence. Taking into account elements like crime type, location, date and time, these algorithms learn from past crime data. The program improves its predictions over time by iteratively learning new information. More complex models can take into account outside information including socio-economic indicators, environmental factors, and regional events that can affect crime rates. As a result, a dynamic, intelligent system provides law enforcement with a high-resolution view of probable crime patterns and hotspots, supporting them in making data-driven judgments.

Predictive policing has many benefits, but it is not without controversies and difficulties. Critics claim that if the past data used are biased or racist, the practice could result in invasions of privacy, over policing of particular districts, and the perpetuation of racism. The accuracy of AI depends on the quality of the training data. In order to avoid bias or misuse, it is crucial that AI-driven predictive policing be implemented in a transparent, strictly regulated manner that includes safeguards. AI and predictive policing have the potential to improve crime prevention and increase community safety and security in the right hands and with the right ethical concerns.

Redefining Forensics in Law Enforcement with Deep Learning and AI

Deep learning, a branch of artificial intelligence (AI), has the potential to revolutionize forensics in law enforcement by providing tools and methods that will speed up and improve the recognition and analysis of physical evidence. Deep learning models are useful for tasks like voice pattern analysis, facial recognition, and fingerprint or DNA analysis because they can be trained to spot patterns and abnormalities in large, complicated data sets. These programs can more quickly and accurately conduct forensic investigations by sorting through thousands of pieces of evidence than a human analyst could.

Neural networks are a fundamental component of artificial intelligence and have been applied to various fields with remarkable success. Implementing neural networks and artificial intelligence in law enforcement has become increasingly common, offering potential benefits in terms of improving efficiency, solving crimes, and enhancing public safety. Facial recognition, license plate recognition, predictive



policing, crime pattern analysis, text analysis and natural language processing (NLP), cyber security, digital forensics, risk assessment and pretrial decision-making, body-worn camera analysis, emergency response optimization are some ways neural networks are being utilized in the field of law enforcement.

AI-driven facial recognition technology analyses facial traits and compares them to a database of recognized faces using deep learning algorithms. This technology is crucial to investigations and security operations since it may help identify suspects or victims from surveillance footage or social media. Voice pattern analysis, a field of forensics that can be extremely helpful in solving crimes, can use deep learning algorithms to match audio samples from crime scenes or phone calls to specific individuals.

The analysis of images and recordings from crime scenes is another area where deep learning is being used. These systems can emphasize minute things that a human eye might miss, such as covert weaponry or undetectable indicators of conflict, by utilizing neural networks. These forensics technical developments not only speed up the gathering and analysis of evidence, but also significantly lower the possibility of human error. Law enforcement will advance significantly with the use of AI to forensics, receiving cutting-edge tools to improve their capacity for investigating crimes.

AI models can aid in evaluating the risk posed by individuals in the criminal justice system, helping judges make more informed decisions regarding bail, parole, and sentencing. AI algorithms, including neural networks, are used to optimize emergency response systems by predicting the location and severity of incidents. This enables faster and more effective deployment of resources in critical situations.

There are significant concerns regarding the impact of artificial intelligence on civil liberties and human rights. Even though AI tools like face recognition have the potential to increase the effectiveness of law enforcement personnel, these tools may unintentionally reinforce and amplify current racial prejudices and inequality in policing. Particularly, facial recognition algorithms have drawn criticism because they tend to mistakenly identify people of colour more frequently than their white counterparts, which can result in false accusations and unwarranted scrutiny. This racial profiling is harmful to society as a whole as well as to the targeted people and groups. We have a moral responsibility to address these biases. It is important to be concerned about how faith in law enforcement is eroding because it creates societal divisions and makes it harder to keep the public safe and orderly. Legal repercussions may be significant if civil rights are compromised as a result of unfair person identification.

The biased data that AI systems are educated on frequently show up in their outputs. We can develop more egalitarian AI tools by making sure the data are representative of all racial, ethnic, and demographic groups. Similar to this, improving the algorithms' ability to detect and control bias can help improve how fair AI applications in law enforcement are. But these actions on their own are insufficient. The ethical implications of AI use in law enforcement must be taken into account. Principles that place a high priority on respect for human rights, justice, transparency, and accountability should be used to guide the deployment of AI. Continuous monitoring and routine auditing of these systems for potential biases or anomalies are crucial in this regard. Only then can we guarantee that AI benefits law enforcement officers rather than serving as a basis for prejudice and injustice.

The Future of AI in Law Enforcement

The adoption of cutting-edge technologies by the law enforcement community, particularly AI and VR (Virtual Reality), has created new opportunities for enhancing police training methods. These tools provide students with a safe, immersive, and realistic learning environment where they may practice, develop, and polish their skills. They aid in preparing officers for the unexpected by model-



ling a variety of intricate, real-world circumstances. This improves their ability to make decisions and react to many events, including potentially dangerous ones.

The ability of VR technology, in particular, to effectively simulate human interactions and reactions, is of great interest. It gives law enforcement officials a chance to practice managing tense situations with finesse and empathy, lowering the likelihood of pointless altercations or overuse of force. Contrarily, AI can be used to customize training modules according to unique strengths and limitations, resulting in a personalized learning environment. AI algorithms can provide useful insights into the trainee's performance by collecting and analysing data from VR training sessions and suggesting areas that require additional work.

A collaborative conversation with law enforcement authorities and other stakeholders should come after the incorporation of new technologies into law enforcement and is led by public consensus. It is crucial to make sure that the use of these technologies does not violate the values of accountability, transparency, and privacy. In this manner, the incorporation of AI and VR into police training may lead to a more effective, moral, and neighbourhood-focused police force, thereby fostering public trust and collaboration.

With the rise of cybercrimes including money laundering, fraud, and identity theft, law enforcement has had to adjust to a changing landscape of criminal activity. AI and machine learning technologies have played a significant part in this transition by offering cutting-edge tools that can detect, evaluate, and forecast criminal behaviour in the digital sphere. Law enforcement officials and crime analysts may now spot suspicious activity more quickly and accurately than ever before thanks to sophisticated algorithmic systems that are outfitted with features like pattern recognition and anomaly identification.

Particularly, AI has changed efforts to combat money laundering. Although it is a complex crime that frequently goes undiscovered in the financial industry, artificial intelligence (AI) may spot small patterns and anomalies that might point to illegal transactions. Software companies are creating AI-driven tools that analyse enormous volumes of financial data for signs of questionable activity, significantly cutting the time and resources required for manual investigations. In addition to aiding in the capture of offenders, this proactive approach to financial crime detection also serves as a potent deterrence.

Collaboration with the private sector, including software businesses, financial institutions, and cyber security organizations, is required for the adoption of AI in law enforcement, particularly in cyber security. Given the scope and complexity of cybercrimes, an integrated strategy that makes use of shared resources and intelligence can produce better results. In order to tackle the sophisticated cyber threats of the digital era and ensure a safer and more secure online environment for all users, law enforcement and the commercial sector must work together effectively.

Real-time crime reporting and neighbourhood policing have benefited greatly from the use of drone and wearable technologies. Body cams and other wearable equipment can give police officers on the scene real-time video technology, boosting police investigations and increasing accountability. On the other hand, drone technology can be useful for aerial surveillance in public locations, especially during large-scale events or in difficult-to-reach places, by offering a bird's-eye view that can help with situation assessment and tactical planning. Using AI and surveillance technology, real robots are even being used in some places to patrol public locations and detect suspicious activity.

These technologies do, however, also present legitimate social and privacy concerns in addition to the societal benefits. For instance, the increased use of monitoring for identification could result in abuse or overreach. The relationship between the police and the communities they serve may become less trustworthy as a result of privacy invasion and potential bias in predictive policing algorithms. The



employment of cutting-edge policing tools and the protection of civil liberties must therefore be balanced. In order to protect privacy while utilizing the advantages of AI in community policing, norms that respect privacy must be established. This can be done through transparency, regulatory oversight, collaborative conversation with law enforcement, and public consensus.

Conclusions

Smart, cutting-edge police services cannot fulfil their promise in the community without a certain degree of acceptance and trust. Citizens will not see the benefits of AI technology for police where they feel like they are constantly being watched without being able to feel safer.

Community trust must increase as the possibilities of artificial intelligence technology expand and predictive policing becomes more feasible. When trust and technology are completely combined, AI's potential in policing will only be fully realized.

References

- Chopra, S., White F. L. (2011). *A Legal Theory for Autonomous Artificial Agents*. [S.l.]: University of Michigan Press.
- Imran, M. (2020). *Gradient Descent Optimizer - Regression Made Easy Using Tensor Flow*, 2020. Available at: <https://www.folio3.ai/author/mohammad-imran/page/4/>. Accessed on: 9 Oct. 2023;
- Mecaj, S. E. (2022). Artificial Intelligence and Legal Challenges. *Revista Opinião Jurídica*, Vol. 20, No. 34, pp. 180-196, 2022.
- Ventre, D. (2020). *Artificial Intelligence, Cybersecurity and Cyber Defence*. John Wiley & Sons, 2020.
- Willick, M. S. (1985). *Constitutional law and artificial intelligence: the potential legal recognition of computers as persons*. Available in: <https://www.ijcai.org/Proceedings/85-2/Papers/115.pdf> , Accessed on: 06 Oct. 2023.

