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An Analysis of the Legal and Ethical Consequences of the Usage of Artificial Intelligence in Criminal Investigations

MRINMAY KARMAKAR¹ AND ISTAPADA BHATTACHARYA²

ABSTRACT

Law enforcement procedures could be revolutionised by artificial intelligence (AI), but there are also important ethical and legal issues that need to be addressed. The use of AI in criminological investigations is discussed in this essay along with its ethical and legal implications. From a legal standpoint, the employment of AI poses questions about bias, fairness, and privacy. The issue of due process emerges when AI systems are used to make judgements that have an impact on people's lives without any disclosure or recourse. When AI systems acquire, use, and retain personal data without the necessary protections, a privacy concern arises. The bias issue emerges when pre-existing social biases and inequities are amplified and reinforced by AI systems. The application of AI raises moral concerns about responsibility, openness, and justice. When there is a problem with responsibility, When AI systems are utilised to make choices without clear lines of duty or accountability, a problem with accountability results. When AI systems are obscured and difficult to comprehend for individuals whose actions may be impacted, transparency issues arise. There is a problem with justice when AI systems perpetuate and amplify pre-existing social inequities and injustices. Despite the likelihood that it will improve law enforcement procedures, it is important to employ caution when using AI in criminal investigations to avoid moral and legal fallout. The suggested paradigm can act as a road map for the ethical application of AI to court procedures, guaranteeing that these programmes are open, accountable, fair, and subject to human review.

Keywords: Artificial intelligence, AI, criminal, cases, Ethics.

I. INTRODUCTION

Criminal investigations are one area where artificial intelligence (AI) has seen widespread adoption. However in order to ensure that justice is done, there are serious legal and ethical issues raised by the use of AI in criminal investigations.

Examining the legal implications of AI in criminal investigations reveals potential violations of

¹ Author is a student at University of Engineering and Management Kolkata, India.

² Author is a student at University of Engineering and Management Kolkata, India.

due process and privacy rights. Biased data can affect decision-making, result in erroneous results from AI systems, and have an unfavourable impact on outcomes. Concerns about the admissibility of evidence generated by AI in criminal proceedings are also raised by its use. Legal frameworks must be changed in order to address these concerns and provide specific standards for the application of AI in criminal investigations.

From an ethical standpoint, the use of AI in criminal investigations raises concerns about transparency and accountability. It's likely that algorithms aren't always transparent, which can limit people's ability to challenge or appeal results by making it harder for them to understand how decisions were reached. Nevertheless, the use of AI to criminal investigations could lead to racial and socioeconomic biases, which could lead to disproportionate enforcement against communities of colour. The development and application of artificial intelligence (AI) in criminal investigations must prioritise fairness, transparency, and accountability.

Artificial intelligence can significantly improve the effectiveness and accuracy of criminal investigations. But it also creates moral and legal questions. Privacy, bias, due process, accountability, openness, and human rights are some of these issues. There is a requirement for strict oversight, regulation, and responsibility of AI systems and their users to guarantee that the use of AI in criminal investigations does not infringe upon fundamental rights and freedoms. It's critical to find a balance between the potential advantages of AI and the defence of people's freedoms and rights.³

II. LEGAL CONSEQUENCES OF THE USAGE OF ARTIFICIAL INTELLIGENCE IN CRIMINAL INVESTIGATIONS

Artificial intelligence (AI) has the potential to greatly increase the precision and effectiveness of criminal investigations. Yet, it also brings up a number of legal issues that must be taken into account, such as:

Data security and privacy: Artificial intelligence (AI) systems may process a significant quantity of sensitive personal data, such as financial, medical, and criminal histories. Data protection rules and individual privacy rights must be respected in the use of such data.

Due Process: The principles of due process, including as the presumption of innocence, the right to a fair trial, and the opportunity to face one's accuser, must be followed when using AI systems in criminal investigations. The fairness of criminal procedures could be harmed by the

³ Asma Idder, Stephane Coulaux, "Artificial intelligence in criminal justice: invasion or revolution?", International Bar Association(13th December 2021), <https://www.ibanet.org/dec-21-ai-criminal-justice> (6th April, 2023)

deployment of artificial intelligence (AI) systems that produce outcomes that are challenging or difficult to comprehend.

Legal Liability: There are concerns concerning legal culpability when AI systems are used in criminal investigations. Who is in charge, for instance, if an AI system produces false or deceptive results that result in an erroneous arrest or conviction? These issues require serious thought and consideration.⁴

Bias and Discrimination: AI systems have the potential to reinforce preexisting biases or create new biases that could have a discriminatory impact. Anti-discrimination rules must be followed, and the use of AI systems in criminal investigations must be closely scrutinised to make sure they do not unfairly target particular groups.

Evidence Admissibility: The employment of AI in the gathering and analysis of evidence may cast doubt on its admissibility in a court of law. Before evidence is considered admissible in court, the dependability and accuracy of the AI system used to gather and evaluate it may need to be demonstrated.

Intellectual property rights, such as patents, copyrights, and trade secrets, may be exploited in the development of AI systems employed in criminal investigations. The appropriate consideration and resolution of such intellectual property's legal ownership and use may be required.

Data Retention and Destruction: When AI is used in criminal investigations, a lot of data, including personal data, may be retained. In compliance with data protection rules and individual privacy rights, such data must be stored and then deleted.

Jurisdictional Issues: Using AI systems in criminal investigations may lead to jurisdictional problems, especially if a foreign entity is running the system. Local rules and regulations, especially those pertaining to data protection and privacy, must be followed when using such systems.⁵

Training and Certification: Specialized training and certification may be needed for the usage of AI systems in criminal investigations. The establishment of rules and standards for the instruction and certification of individuals who run and maintain AI systems may be required by law enforcement agencies and other organisations that use such systems.

⁴ Anoushka Bidwalkar, "Use of Artificial Intelligence in Criminal Justice System", NATIONAL LAW INSTITUTE UNIVERSITY, BHOPAL, <https://clt.nliu.ac.in/?p=431> (6th April, 2023)

⁵ Carlow University, "Artificial Intelligence in Criminal Justice: How AI Impacts Pre-trial Risk Assessment", Carlow Today & Tomorrow | Blog(27th July, 2021), <https://blog.carlow.edu/2021/07/27/artificial-intelligence-in-criminal-justice/> (6th April, 2023)

Chain of Custody: The chain of custody of the evidence may come under scrutiny if artificial intelligence is used in criminal investigations. The legitimacy and integrity of evidence produced by AI systems may be difficult to verify, and the chain of custody may need to be closely watched to make sure that the evidence is not tampered with.

Informed Consent: Individuals whose data is being handled may need to provide informed consent for the use of AI in criminal investigations. When delicate personal information, like biometric data, is being gathered and processed, this can be very crucial.

Data transfers across international borders may be necessary when using AI in criminal investigations. Laws and rules governing data protection, particularly those governing cross-border data transfers, must be complied with in these transfers.

Technology Restrictions: Restrictions in terms of technology, such as the availability of data or the precision of algorithms, may prevent the use of AI in criminal investigations. To prevent inaccurate or misleading findings, the limits of AI systems must be carefully studied and addressed.

Public Perception and Trust: The public's perception of and trust in the police may be impacted by the employment of artificial intelligence in criminal investigations. To maintain openness and accountability in the usage of AI systems, it is important to weigh the potential benefits of AI against public trust concerns.

The use of AI in criminal investigations raises a variety of complicated legal challenges that require serious consideration and resolution. To ensure that AI systems used in criminal investigations adhere to legal requirements and do not infringe on people's rights and freedoms, it is crucial to create clear norms and standards.⁶

III. AN ANALYSIS OF THE ETHICAL CONSEQUENCES OF THE USAGE OF ARTIFICIAL INTELLIGENCE IN CRIMINAL INVESTIGATIONS

In recent years, using artificial intelligence (AI) in criminological investigations has grown in popularity. While AI can be an effective tool for solving crimes, there are also ethical issues that need to be taken into account. We shall look at the ethical ramifications of using artificial intelligence in criminal investigations in this analysis.

Bias: The data that AI systems are taught on determines how impartial they are. The AI will produce biased results if the data it was trained on is skewed. This might result in some people

⁶ Asma Idder, Stephane Coulaux, "Artificial intelligence in criminal justice: invasion or revolution?", International Bar Association (13th December 2021), <https://www.ibanet.org/dec-21-ai-criminal-justice> (7th April, 2023)

or groups being treated unfairly.

AI should not be permitted to make judgements on its own; human oversight is required. Instead, human monitoring is required to guarantee that decisions made by AI systems are reasonable, open, and consistent with moral and legal standards.

AI may be used to gather and evaluate a lot of data while maintaining privacy. While this can be useful in catching criminals, it also poses privacy issues. The right to privacy of each person must be weighed against the use of AI in criminal investigations.⁷

Accountability: It might be challenging to keep AI systems accountable. It could be challenging to pinpoint who is at fault if an AI system generates a result that is later revealed to be inaccurate or unfair.

Transparency: Because AI systems' inner workings might be opaque, it can be challenging for people to comprehend how decisions are made. The criminal justice system may lose public trust as a result of this lack of transparency.

AI cannot take the role of human decision-making, even though it can be useful in spotting trends and generating forecasts. Finally, human beings who are answerable to the public must decide whether to prosecute a particular individual.

Error rates: AI systems are not perfect and sometimes make mistakes. Even minor mistakes in criminal investigations can have a big impact on people. Thus, it is crucial to take error rates into account and set up safeguards to reduce the possibility of errors.

AI usage must be morally correct and in conformity with basic human rights concepts. For instance, it is not appropriate to target people in criminal investigations using AI based on their ethnicity, gender, or other protected traits.⁸

IV. AI GOOD OR BAD FOR INVESTIGATION IN CRIMINAL CASES

Depending on how it is applied and employed, artificial intelligence (AI) can be both beneficial and detrimental to criminal investigations. Here are a few potential advantages and disadvantages:

(A) Benefits of AI in criminal investigations:

Efficiency and speed: AI can swiftly process and analyse huge volumes of data, including phone

⁷ UNESCO, "Artificial Intelligence: examples of ethical dilemmas", UNESCO, <https://en.unesco.org/artificial-intelligence/e7th-thics/cases> (April, 2023)

⁸ Bakertilly, "The ethical implications of using AI", Bakertilly (8th July, 2021), <https://www.bakertilly.com/insights/the-ethical-implications-of-using-ai> (8th April, 2023)

records or CCTV footage, which can greatly speed up investigations.

Objectivity: Because AI is unaffected by subjective opinions or feelings, it can help to ensure that investigations are balanced and unbiased.

Prediction and prevention: AI systems can be used to recognise patterns and forecast criminal conduct, assisting in early intervention and preventing crime.⁹

AI can assist in the analysis of DNA and other forensic data to pinpoint probable culprits and create better cases.

Resource allocation optimisation: AI can assist investigators in more efficiently prioritising leads and allocating resources, resulting in quicker and more fruitful investigations.

Accuracy is increased thanks to AI's ability to lessen human mistake in data entry and processing, which can produce more accurate and dependable outcomes.¹⁰

(B) Drawbacks of AI in criminal investigations:

Data bias: The quality of AI systems depends on the data they are trained on. The analysis's findings could be erroneous or biased if the data used in it are skewed or lacking.

Privacy issues: If AI systems using personal data, like facial recognition, are not adequately governed, privacy issues may arise.

Dependency on technology: Investigations with an excessive reliance on AI technology may lack human control, which may result in mistakes or false positives.

Lack of transparency: AI algorithms may be intricate and challenging to comprehend, making it challenging to ascertain how judgements are being made.

Security issues: AI systems may be susceptible to hacking and other security lapses if they hold sensitive data, such as criminal histories or surveillance footage.

Ethics: Concerns like bias, privacy, and spying that can be brought up by AI need to be properly explored and addressed.

Overall, the use of AI in criminal investigations can have considerable advantages, but it is crucial to proceed carefully and carefully weigh any potential negatives. Instead than completely replacing human abilities and decision-making, technology should be used to

⁹ Christopher Rigano, "Using Artificial Intelligence to Address Criminal Justice Needs", National Institute of Justice (8th October, 2018), <https://nij.ojp.gov/topics/articles/using-artificial-intelligence-address-criminal-justice-needs> (8th April, 2023)

¹⁰ Police1 Digital Edition, "How AI technology is helping solving crime", Police 1(18th November,2020), <https://www.police1.com/police-products/police-technology/police-software/articles/how-ai-technology-is-helping-solving-crime-7vb577RVrWliW57H/>

improve them.¹¹

V. CONCLUSION

In conclusion, the legal and ethical landscapes have undergone major changes as a result of the application of artificial intelligence in criminal investigations. It is obvious that AI technology will play an increasingly important role in law enforcement activities, particularly in criminal investigations, as it continues to advance. While AI has several advantages in criminal investigations, such as the capacity to quickly sift through large volumes of data, it is crucial to consider any potential ethical and legal ramifications. From a legal perspective, privacy, due process, and the presumption of innocence issues have been brought up by the use of AI in criminal investigations. Debatable issues include the precision and dependability of the AI algorithms utilised in investigations. Before AI to be fully incorporated into the criminal justice system, concerns including bias, data privacy, and civil liberties must be resolved. The application of AI to criminal investigations raises ethical questions. Transparency, accountability, and the possibility of abuse are raised by the usage of AI. With regard to racial and socioeconomic inequities in particular, the use of AI in criminal investigations has the potential to exacerbate already-existing injustices. It is crucial that legislators, law enforcement organisations, and technology developers collaborate to define precise norms and restrictions for the use of AI in criminal investigations in light of these worries. These laws should cover subjects like data protection, accountability, openness, and the possibility of prejudice. Additionally, law enforcement organisations must make sure that the application of AI to criminal investigations complies with moral standards like justice, responsibility, and openness. Also, they must make sure that AI is employed as a tool to support human judgement rather than as a substitute for it. In conclusion, there are potential and difficulties associated with the application of AI in criminal investigations. Although technology has the ability to completely transform law enforcement operations, its use must be done properly and with a thorough grasp of its ethical and legal ramifications. It is possible to ensure that the use of AI in criminal investigations adheres to the ideals of justice, fairness, and respect for human rights by developing explicit legislation, standards, and ethical principles and values.

¹¹ Lisa Quest, Anthony Charrie, Subas Roy, "THE RISKS AND BENEFITS OF USING AI TO DETECT CRIME", Oliver Wyman(9th August, 2018), <https://www.oliverwyman.com/our-expertise/insights/2018/dec/risk-journal-vol-8/rethinking-tactics/the-risks-and-benefits-of-using-ai-to-detect-crime.html> (8th April, 2023)