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Role Of Artificial Intelligence In Crime Prevention

ISHIKA AGARWAL
Law Student,
Law Collge Dehradun, Uttaranchal University.

INTRODUCTION

It has long been believed that the areas of criminal law and technology are incongruous. The prospect of using artificial intelligence in court has been considered in criminal procedural law. Not only are the way crimes occurring fluctuating wildly, but also how examinations are carried out because of the shift to a digital age. We humans have the duty to deliver justice, and the sudden digital transformation in society is changing how this duty is carried out. The advantages of technology and AI must be fully utilized possible by the court system (CJS). For the better interest of society, especially in regard to the criminal justice system, experts from professions such as policymakers, technologists, and lawyers must collaborate. AIC has not yet received recognition as a significant phenomenon. The research on AI's ethical and societal ramifications places more emphasis on policing and limiting its civil applications than it does on examining its potential role in crime. The AIC research that is now available is also dispersed over several other academic fields, including socio-legal studies, computer science, psychology, and robotics, to mention a few. This new area of prospective criminal activity's lack of research focused on AIC limits the possibilities for both projections and solutions. Cities are also looking into further uses for surveillance and AI technologies. To reduce air pollution for sustainability purposes, AI is being used in emission controls and urban tolling. Another developing application area is future health crisis prevention. Paris utilizes artificial intelligence to monitor the metro system to ensure that riders are wearing face masks. The objective is not to track down and punish lawbreakers, but rather to generate anonymous data that helps authorities anticipate future outbreaks of infection.

A wide range of areas in our lives, including agriculture, industry, communication, education, finance, government, service, manufacturing, medicine, and transportation, have adopted AI applications. Even criminal justice and public safety are benefited by AI. For instance, crime forecasts make it possible to allocate policing resources more effectively, and traffic safety systems track down infractions and enforce traffic laws. AI is also assisting in the identification of reoffender risk in people under criminal justice supervision. NIJ-funded research is paving the road for the application of AI to criminal justice issues, including DNA analysis, gunshot detection, and crime forecasting. These applications include identifying people and their behaviors in recordings pertaining to criminal activity or public safety.

Also, the U.S. Department of Transportation is working to improve public safety by studying, creating, and testing automatic traffic accident video-based detection to support the maintenance of safe and effective commuter traffic over varied locations and weather, illumination, and traffic conditions. It may be crucial for the criminal justice and medical examiner sectors to consider the use of AI algorithms in medicine when determining the cause and manner of death. DNA analysis is just one of many forensic science fields where AI algorithms have been researched. Artificial intelligence is steadily improving to the point where it may be used to both penalize criminals and prevent illegal activity. It is no longer only a theory to be conjectured about. Numerous law enforcement agencies use cutting-edge techniques to deter crime worldwide. Facial recognition is one approach being used frequently in fields other than law to ensure security. Computers are used to analyze a framework known as artificial intelligence in the field of law enforcement. It can also be used to decide on ultimate judgements. The technology is what has the most potential for the future of crime detection.

Around the world, businesses and cities are experimenting with employing artificial intelligence to lessen and prevent crime as well as respond to crimes in progress more rapidly. Several of these initiatives are based on the notion that crimes may be, to a large extent, predicted; all that is needed is the ability to sift through vast amounts of data to identify patterns that are helpful to law enforcement. It was once technologically difficult to perform this type of data analysis, but current advancements in machine learning should make it practical. This article will divide the various ways that businesses are attempting to combat crime with AI into two broad categories: How artificial intelligence (AI) is used to identify crimes in (a) and (b) Ways AI is being used to prevent future crimes.

GROWTH OF AI IN CRIME DETENTION

Artificial intelligence has been present for a substantial amount of time in several industries, including transportation, banking, energy, healthcare, etc. The police forces have only lately begun using AI in comparison to those industries. Several nations throughout the world are now aware of its benefits and possibilities both in terms of deterring criminal activity and detecting crime. Although artificial intelligence in law enforcement is still in its early stages, the results are impressive. It is regarded as a powerful instrument because of its capacity to handle practically all types of criminal activity. The option is given to the LEAs to concentrate their resources in a certain area and at a specific time. Prior to carrying out any action in a region, it is crucial.

As governments work to support their nation's rapid expansion, every region's infrastructure is becoming more sophisticated. Government authorities are receiving real-time data thanks to a nation's infrastructure that is smarter and more connected. Artificial intelligence (AI) and real-time data can help catch crimes as they happen. In addition, several jurisdictions have incorporated AI techniques into practically all phases of the criminal judicial system. Bail, sentencing, and parole decisions are influenced by algorithms. Many judges now use predictive analytics when determining whether to imprison or release a defendant pending trial in the context of pretrial risk assessments. Others have hailed AI and its predictive analytics as having the ability to enhance a deficient criminal justice system. Several legal experts, technologists, and community activists, however, think that these technologies might make the issues worse rather than make them better. Cities are also investigating further applications for surveillance and AI technology. AI is being utilized in emission controls and urban tolling to lessen air pollution for sustainability reasons. Preventing future health crises is another emerging application area. To make sure that riders are donning face masks, Paris uses AI to monitor the metro system. The goal is to produce anonymous data that aids authorities in predicting futureoutbreaks of infection, not to identify and punish rule breakers.

HOW LAW ENFORCEMENT AGENCIES USES ARTIFICIAL INTELLIGENCE

Public safety is the responsibility of law enforcement, and they must deal with all the issues that arise from it. Fortunately, a lot of the work that police officers do can be done with the help of technology. Artificial intelligence in law enforcement has grown to be a significant component of police work on a global scale in recent years. Crime prevention and prediction are undergoing significant changes as AI-based police technology becomes more and more crucial to law enforcement. One outcome of this transition has been predictive policing, but other policing tactics have undergone substantial changes for the sake of public safety. Law enforcement organizations are already utilizing AI in several significant ways.

1. **Facial Recognition**- For police departments, facial recognition technology is essential. Using image data, police utilize facial recognition to locate missing people and track down fugitives from the law. If you've ever watched video taken by a street camera, you are aware of the poor quality of these pictures. As you can expect, it is challenging and time-consuming to search through these photographs for important information. Many police forces lack the personnel or expertise necessary to manage the volume of picture analysis required to resolve all their cases. AI in law enforcement promises faster police and more accurate face matching than humans. Beyond what humans can normally recognize, machines can recognize faces using certain factors. Some AI systems available today are even sophisticated enough to recognize a single face in a crowd.

2. **Predictive Policing**- AI predictive policing is the ability to foresee the locations of crimes, the people who will commit them, the types of crimes, and the identities of the victims. Although the subject of predictive policing is contentious, there is still a long way to go as growing widespread.

Predictive policing solutions are currently being tested by businesses and police forces. These technologies may someday make important advancements in the prediction and, ideally, prevention of crimes. Algorithms can examine crime statistics in various locations to create a map of crime hot spots when it comes to forecasting where crimes will occur. This instructs law enforcement to focus their patrols and surveillance efforts on areas. Moreover, AI can provide a clearer image of those who are most likely to conduct crimes, and who will probably commit another crime after being released from prison, according to data and historical pattern research. Understandably, there is some disagreement over what should be done with this information, and if the practice becomes more prevalent, there will be even more disagreement. The identification of probable future victims of crimes is where predictive policing may be most beneficial. Research is now being done to prevent elder abuse by better understanding the environmental factors that facilitate it and using that knowledge to predict the most likely kind of abuse. Imagine the effects of predictive policing in a variety of violent crimes, even though elder abuse is just oneuse case.

3. **Robots**- No, robots are not about to take the place of our whole police force. But to do jobs ranging from the routine to the most hazardous, police departments are turning to robots. In fact, some nations are conducting robotics tests. They serve as stand-in police officers. Dubai is experimenting with street robots that can send information back to the corporate office for human inspection. They can converse in six different languages and have touch screens for reporting crimes. Also, robots can replace police officers in carrying out more difficult tasks. They are a safer option to endangering the lives of police officers since they can enter difficult situations and spot people and objects that can be dangers. There are robots that may likewise be programmed to detonate bombs, improving public safety without putting officers in harm's way.

An AI-powered system can also be utilized to identify the minute biological elements present at the crime scene with the aid of forensic investigation. The materials include fingerprints, hair, semen, blood, urine, saliva, and more. By utilizing AI with cognitive data analytics, identification, and pattern similarity extraction characteristics, it is made practicable. Big data and AI programming can work together to identify crime hotspots by interacting with spatial and temporal data. Like how an increase in theft in one region may indicate nearby instances of the same crime. With the aid of an AI-enabled database, the evidence gathered at the scene of the crime can offer a hint regarding the earlier usage of the same weapon. While analyzing gunshot data, AI algorithms can assist in identifying pattern signatures. AI can assist jail officials in keeping a close eye on criminal activity occurring on or around the jail grounds. Illegal actions may be simply and effectively tracked inside jail facilities with the aid of AI- based surveillance systems and drone technology.

USE OF AI BY THE JUDICIAL SYSTEM

The stare decisis principle is a key consideration while deciding cases in India's courts. To make choices, it is necessary to follow the rulings of higher courts as a guide. This tiresome activity could be made easier by an AI-based database that contains copies of judgements. The statements given in court can be accurately and accurately recorded using AI-based technologies. In conducting trials, it permits transparency. Timing is slowed down unnecessarily when the legal procedure is carried out manually, including the issuance of summonses and notices, the presence of witnesses, the next hearing date, etc. To cut latencies and streamline the trial process, a system powered by AI can be deployed. Judges can award these temporary orders by using AI to precisely summarize or otherwise modify the substanceof legal papers.

USE OF AI BY LAW FIRMS AND LEGAL PROFESSION

Just by uploading the complaint or discovery request with jurisdictional requirements, AI helps advocates produce discovery answers, responding pleadings, and other documents. An AI- based technology called Legislation assists professionals and advocates in accelerating the litigation process. By finding hidden similarities between various types of documents, machine learning algorithms trained by AI are used to classify and cluster them. AI can also be useful for contract analysis and document evaluation. A well-known company by the name of Cyril Amarchand Mangaldas, in collaboration with Kira Systems, developed AI-based machine learning software that enables the discovery and analysis of problematic clauses/provisions incontracts by searching through substantial amounts of web datasets.

FUTURE OF AI IN LAW ENFORCEMENT

The potential uses of AI may not yet be completely appreciated by the law enforcement sector. Nonetheless, it has already had an impact in crucial fields like surveillance, crime prevention, and crime investigation. with improved. AI eliminates the need for labor-intensive jobs, freeing up officers to undertake more sophisticated responsibilities. AI uses imaging technology and object and facial recognition. AI has the potential to solve crimes that would otherwise go unsolved and to apprehend criminals who would otherwise escape justice. Another area to keep an eye on is predictive policing, as it may have significant effects on how offenders are apprehended, and victims are found. Predictive policing should protect the public even more than it now does, but as technology advances, there are still some hitches to be ironed out. There was agreement that combating dangers related to AI will require a more data-driven and scientific approach to criminal investigations. The creation of a "Responsible AI Innovation Toolbox for Law Enforcement" will take into consideration these observations. Also, it became clear that transparency, accountability, and trust were essential components in the creation of the AI Innovation Toolkit. A team of specialists, the INTERPOL Innovation Center, the Centre for Artificial Intelligence and Robotics at UNICRI, and a variety of stakeholders will continue to work on developing the Toolkit with all the meeting's collective feedback in mind.

The joint goal is to provide a collection of useful ideas, instances, lessons learned, concepts, and recommendations for the contemporary policing environment. There was consensus that criminal investigations will need to take a more data-driven and scientific approach to counteract the risks associated with AI. These observations will be taken into account in the development of a "Responsible AI Innovation Toolkit for Law Enforcement." Additionally, it became obvious that the development of the AI Innovation Toolkit required the use of transparency, accountability, and trust. The Toolkit will continue to be developed with the help of a team of experts, the INTERPOL Innovation Center, the Centre for Artificial Intelligence and Robotics at UNICRI, and several stakeholders. The shared objective is to offer a selection of helpful thoughts, ideas, examples, lessons gained, and recommendations for the current policing context. Computers are mostly able to "learn" via recognizing patterns, thanks to artificial intelligence. This means that a broad variety of jobs pertaining to the legal professions can be aided by AI, as it is ideal for examining massive quantities of papers and resources.

CRIME FORECASTING

Large amounts of data are used in the intricate process of predictive analysis to forecast and develop future outcomes. Police, probation officers, and other professionals who work in the field of criminal justice are primarily responsible for this task and must develop their skills over many years. The process takes time and is prone to bias and inaccuracy. AI can suggest rulings, detect criminal enterprises, forecast, and reveal those at risk from criminal enterprises, and utilized vast amounts of legal precedent, social information, and media information. Researchers at the University of Pittsburgh who are receiving funding from the NIJ are exploring and developing computational methods for statutory interpretation that may speed up the process. AI can also be used to identify elderly people who may be the targets of financial and physical exploitation. University of Texas Health Science Center researchers with NIJ funding deployed AI techniques to examine elder victimization at Houston. The algorithmscan discriminate between financial exploitation and other types of elder abuse by identifying the victim, the abuser, and the surrounding circumstances. They can also distinguish between "hybrid" financial exploitation, which occurs when physical abuse or neglect coexists with financial exploitation, and "pure" financial exploitation, which occurs when the victim of financial exploitation suffers no other forms of abuse.

Currently, fraud and money laundering are the two crimes that AI is most frequently employed to identify. Yet in the future, it's expected to start being employed frequently in other sectors as well. Here are three instances of things we see AI being utilized to stop:

Movement of Illicit Products- Express delivery services can use AI to determine whether packages might contain illegal commodities like drugs and then notify the appropriate authorities.

Terror-related Action- Shops and pharmacies could identify clients who buy unusually large volumes of chemicals that could be used as precursors to terrorist acts by using powerful AI capabilities.

The fundamental technique of foreseeing crimes before they happen is referred to as crime forecasting. To foresee a crime before it happens, you need the right tools. Police can now employ gadgets to help them with specific duties, such deploying a body camera to film suspicious unlawful conduct or listening in on a suspect's phone call. To help you better grasp where they would stand with more technology support, we've included a few of these tools below. A stingray, a novel development in police surveillance, is a good tool

for monitoring phones since it can be used to determine a phone's location by broadcasting signals that look like they are coming from cellular towers, fooling nearby phones into sending their location and other data. A dispute against the usage of stingrays in the United States is that it violates the fourth amendment.

ARTIFICIAL INTELLIGENCE: A GIFT OR A CURSE TO THE LEGAL SECTOR

There is constant discussion on whether AI is a blessing or a curse. AI is mostly used in the legal industry and in everyday life to simplify and uncomplicate activities. It is conceivable that labor-intensive jobs and the workforce required to complete these repetitive tasks will soon be replaced by AI. Law companies and attorneys will be able to practice law with greater precision and focus thanks to AI. The application of AI can speed up the administration of justice by reducing waiting times and boosting productivity. Lawyers and legal firms may be able to complete more work in less time because of increased productivity and higher outputs. It may also automate tedious chores like writing standard-form contracts and proofreading, among other things. Yet, since computers lack originality, creativity, and innovative abilities, the application of AI in the legal sector is still rather restricted. Since AI is incapable of matching the logic and reason of the human brain, it cannot offer reasoned verdicts on as-yet unresearched legal matters. The risk of a data breach is always present when technology is used. Legal information is very delicate, and maintaining client-attorney confidentiality cannot be sacrificed for effectiveness. Finally, growing AI use is probably going to result in more unemployment in the legal sector.
The use of AI in the workplace has many benefits, such as better execution of everyday activities, document creation, research, and massive data processing jobs. Chatbots and virtual assistants can be developed using AI as well. These tools can automate and streamline client questions by answering FAQs and giving virtual legal assistance where distance or time constraints would otherwise delay client service. AI can help lawyers speed up time-consuming operations like searching through case law and precedents for relevant keywords or seeking for specific court decisions. The legal industry is frequently seen as one of the most conservative in terms of digital transformation.

LIMITATIONS OF AI TOOLS

Although computers contribute a lot to simplify our lives, they are built to operate according to specific algorithms. Since Artificial Intelligence is not a human so, it cannot predict the circumstances as flawlessly as humans. An enormous mess can be made by a small change to test cases. For instance, if a given signal is not functioning owing to technical problems and traffic is being controlled by an officer's orders, the autonomous automobile is designed to proceed forward on a green signal. An automated vehicle would not be able to predict, make a choice, or think for itself in this situation. However, in this case, the non-automated car is safer. A person can spot the mistake and would act as the officer directs. One of the main problems limiting artificial intelligence is cost. Data undergo a unique procedure. Data mining, data cleansing and structuring, data storage, and data analysis all come at a high expense in terms of hardware and energy utilization. Generative Deep learning is used by the pre-trained Transformer 3 (GPT-3) autoregressive language model to generate text that resembles human speech. Memes are widely used in social media today. Even GPT-3 can create memes. GPT-3 is used by meme generation apps. With just a few cues, it can create amusing memes because it recognizes all meme variations. It is the deep learning of the future, and GPT-3 is expected to cost around $4.6 million. The revised model that can compete for the human brain is in process and is approximately $2.6 Billion. In addition to this, the engineers who operate these kinds of models demand high pay. So, it is very difficult for startups to afford this much cost. There are certain features of AI development that have made admittance into this industry exceedingly exclusive. Given the cost, technical and hardware needs, AI development poses considerable capital requirements therefore establishing high barriers of entry. The minds behind its invention are probably primarily employed by big tech if this issue continues. In the past, technological revolutions have facilitated the entry of new actors and their innovative ideas. The businesses that make up what is today known as big tech (Amazon, Google, Facebook, Apple, and others) began in exactly this manner. As we now begin to untangle the consequence of their tremendous power, the impact that they have had on society is apparent. It is reasonable to assume that enabling new companies and minds to spruce up from a new generation will lead to positive outcomes. The development of AI can aggravate the dichotomy between those in power and those without. It might also accelerate the divide between those humans with AI and the unfortunate few without. Rather than humans versus AI, the future might look like humans with AI versus humans without. An individual needs creativity to conduct a fruitful marketing strategy. Artificial intelligence is not just capable of imagination. Humans have the capacity to think, feel, and act intuitively, which often informs their decision-

making. Artificial intelligence can help in identifying images, recognizing voices, and other tasks but when it comes to originality, it falls short of human creativity. Artificial intelligence thinks and works according to algorithms.

DISCUSSION TOWARDS SOLUTION: DETECTING CRIME

The presumption of innocence, the right to a fair trial (including the right to cross-examine witnesses), the right to an independent and impartial tribunal (including the right to a judge who is randomly selected), the principle of non-discrimination and equality, the principle of legality (i.e., lex certa), and the existence of evidence are all potentially affected by the use of AI in criminal justice and policing. Deep learning and artificial neural networks are making AI even more complicated. Transparency is now little more than a mirage, but future technological advancements may make this better (for example, recent research on "explainable AI" may address the opaqueness of existing AI approaches). Human judges are typically Caucasian, middle-aged men. The 'tough on crime' rules, which set mandatory minimum terms for many types of crimes and took away some of the judges' discretion, did make US criminal justice more equitable, but all defendants took a heavy hit, and prisons quickly became overcrowded. Oddly, writes Eubank the adoption of ‘tough on crime’ laws were a result of organization by both conservative ‘law-and-order’ types and also certain progressive civil rights activists who identified the prejudice in judicial discretion. The evidence from the last 30 years, however, shows something different: Racial disparities in the criminal justice system have gotten worse, and rules and regulations requiring mandatory sentences have made sentencing automatic. Regarding the human rights compliance of the novel systems that may be utilized in the future, listing the pertinent fundamental rights, and analyzing case studies may be very helpful. We might still think any list is insufficient, though. Depending on the social domain in which the systems are used, any human right may be compromised when a decision-making process involving automated reasoning uses it to supplement or replace one that would otherwise be carried out by humans. Lastly, the impacts of AI systems extend beyond human rights. Their impacts may have distorting effects on the fundamental cornerstones and architecture of liberal democracies, i.e., regarding the principle of the separation of powers and the limitation of political power by the rule of law. There may be a benefit in using artificial intelligence programs to help predict criminality on a larger scale considering strained budgets and rising crime. But we must ensure that processes are fair and transparent, while we still can. The creation of an international commission for AI regulation, where nations and users can contribute to the development of systems, may be the most effective approach to achieve this goal and ensuring that codes of conduct and legislation are up to par with global norms for human rights.

CONCLUSION

Forecasting crimes before they happen is simple to understand, but it takes a lot more than understanding the notion to make it a reality. This essay was meant to support academics working to use such cutting-edge technology in the real world and make crime prediction a reality. Although police do include the use of new technology such as Sting Rays and facial

recognition every few years, the use of such software can fundamentally change the way police work, in a much better way. Science and myth both influenced the development of artificial intelligence. The idea that machines could think and do activities like humans does not originate today; it has been around for thousands of years. Furthermore, the idea that AI primarily works with logic is not brand-new. We can look at these technologies as the execution of long- established cognitive principles of enormous strength through engineering. The implementation of artificial intelligence (AI) in crime prevention and detection helps the firm and local government to accurately minimize crime. While the crime level has been dropping for decades, overall law enforcement spending has climbed. When it comes to preventing and detecting crime, AI's benefits come with certain inherent risks. For example, depending on inadvertent racial prejudice put into the AI system, a person may be classified as a criminal or susceptible to criminal activity. Such threats should be examined openly and openly to decide whether using AI to stop criminals is a strategic match. But, like any immature technology, it needs time and mistakes to improve. To ensure fundamental rights and values, particularly those of a fair trial, and to protect people's privacy until that time, a worldwide consensus is required. This consensus should be based on a code of ethics that is transparent and accountable. In a social setting where civil society perceives AI to be more intelligent than its creator, humankind, the EU draught law seeks to give a framework outlining the usage of AI and its powers. By predictive justice, AI seems in some manner to connect itself with the task of the judge it imitates. In this light, it could be intriguing to consider whether AI might also mimic a lawyer's work to enhance their time optimization: could an AI program become a lawyer?

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