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Artificial Intelligence Policing in Criminal Justice Methods & Concerns in Crime Detection and Prevention in India

ANKUSH SHARMA*

ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative technology influencing governance, law enforcement, and the administration of criminal justice across the world. In India, the integration of AI into policing has introduced new methods for crime detection, investigation, prediction, and prevention. AI-driven technologies such as predictive policing, facial recognition systems, surveillance analytics, data mining, automated crime mapping, and intelligent decision-support systems are increasingly being explored to improve policing efficiency and public safety. These technologies assist law enforcement agencies in identifying crime patterns, forecasting high-risk areas, accelerating investigations, and enhancing resource allocation.

This study examines the application of artificial intelligence in policing within the Indian criminal justice framework and critically evaluates its methods and emerging concerns. The research explores how AI tools contribute to proactive and evidence-based policing while analysing their role in crime detection and prevention. It further investigates Indian initiatives toward smart policing and digital transformation in law enforcement.

Despite its advantages, the adoption of AI in policing raises significant legal, ethical, and constitutional concerns. Issues relating to privacy, algorithmic bias, transparency, accountability, data protection, surveillance overreach, and procedural fairness present serious challenges to the legitimacy of AI-assisted policing. In the Indian context, concerns become more complex due to the absence of a comprehensive regulatory framework specifically governing AI in criminal justice processes. Excessive reliance on automated systems may also affect fundamental rights and principles of natural justice.

The paper adopts a doctrinal and analytical approach to examine existing legal frameworks, judicial developments, policy initiatives, and international practices relevant to AI-enabled policing. It argues that while artificial intelligence offers substantial opportunities for improving crime control and preventive policing, its deployment must be accompanied by robust legal safeguards, ethical standards, human oversight, and accountability mechanisms. The study concludes that responsible and rights-oriented

* Author is an Assistant Professor at Sardar Patel Law College, Sri Ganganagar, Rajasthan, India.

integration of AI can strengthen the Indian criminal justice system while maintaining the balance between technological advancement and constitutional protections.

Keywords: *Artificial Intelligence, Policing, Criminal Justice System, Crime Detection, Crime Prevention, Predictive Policing, Surveillance, Privacy, India.*

I. INTRODUCTION

The idea of artificial intelligence began attracting serious intellectual attention during the mid-twentieth century, particularly among mathematicians, physicists, and philosophers who were interested in understanding whether human intelligence could be replicated through machines. During the 1950s, an important question emerged: if human beings are capable of collecting information, analysing data, and using reasoning to solve problems, then could machines also be designed to perform similar cognitive functions?

One of the earliest and most influential contributors to this discussion was Alan Turing, a British mathematician, logician, and pioneer of modern computing. Turing proposed that intelligent behaviour should not be considered an exclusive characteristic of humans and argued that machines might eventually demonstrate forms of reasoning and decision-making. His ideas were presented in his landmark 1950 paper, *Computing Machinery and Intelligence*, where he examined the possibility of machines exhibiting intelligence and introduced questions that later became foundational to AI research.¹

Turing's work challenged traditional assumptions regarding human thought and opened discussions about whether intelligence should be defined by internal consciousness or by observable behaviour. Rather than focusing on whether machines could literally "think," he suggested evaluating whether a machine's responses could become indistinguishable from those of a human being.²

However, despite the strength of these theoretical ideas, technological limitations prevented their immediate implementation. Computing systems available during that period had extremely limited processing power, restricted memory capacity, and insufficient storage capabilities. Early computers were largely designed to execute specific instructions and lacked the ability to retain previous experiences, learn from data, or adapt to changing circumstances. In addition,

¹ INDIAAI, *A Brief History of Artificial Intelligence*, <https://indiaai.gov.in/article/a-brief-history-of-artificial-intelligence> (last visited May 18, 2026).

² UNESCO, *Towards a Global Code of Ethics for Artificial Intelligence Research*, UNESCO COURIER, July–Sept. 2018, at 3, <https://unesdoc.unesco.org/ark:/48223/pf0000265211> (last visited May 11, 2026).

the development and maintenance of computing machines required significant financial resources, making experimentation expensive and inaccessible.

As a result, artificial intelligence remained largely a conceptual and academic pursuit during its early years. Nevertheless, Turing's vision laid the intellectual foundation for later developments in machine learning, data processing, and intelligent systems. Advances in computational power, digital infrastructure, and algorithmic design in subsequent decades eventually transformed AI from a theoretical possibility into one of the most influential technological fields of the modern era.³

As artificial intelligence continued to evolve, significant improvements in computational technology and machine learning techniques transformed AI from a theoretical concept into a practical tool with real-world applications. The development of machine learning enabled computer systems to process information, identify patterns, and improve performance based on experience rather than relying solely on fixed instructions. This advancement provided individuals and institutions with more efficient methods to address complex problems through data-driven decision-making and algorithmic processes.

One of the major turning points in the growth of AI was the rapid increase in computing power and data storage capacity. Unlike early computers, modern systems became capable of storing and processing enormous volumes of information within a short period of time. At the same time, technological infrastructure became more accessible and affordable, allowing governments, industries, researchers, and ordinary users to adopt intelligent technologies on a much larger scale. These developments accelerated innovation and expanded the practical use of AI across multiple sectors.

Public interest in artificial intelligence increased dramatically following several landmark achievements that demonstrated the growing capabilities of machines. A historically significant moment occurred in 1997 when IBM's AI-powered chess system, Deep Blue, defeated world chess champion Garry Kasparov. This event symbolized the ability of machines to perform highly sophisticated analytical tasks previously believed to require uniquely human intellectual abilities.

Following this milestone, artificial intelligence entered a new phase of development marked by practical applications across everyday life. Advances in speech recognition technology enabled virtual assistants and voice-operated systems capable of understanding and responding to

³ INURTURE, *Artificial Intelligence in India: A Sneak Peek*, <https://inurture.co.in/artificial-intelligence-in-india-a-sneak-peek/> (last visited May 20, 2026).

human language. Developments in robotics introduced humanoid machines designed to imitate aspects of human communication, including facial expressions and emotional recognition. AI systems also began to appear in journalism through automated news generation and presentation, while law enforcement agencies started exploring predictive analytics, surveillance technologies, and intelligent policing mechanisms to enhance public administration and security.

Beyond these developments, AI has increasingly become integrated into healthcare, education, transportation, finance, and legal systems. In healthcare, intelligent systems assist in medical diagnostics and treatment planning. In education, AI supports personalised learning experiences and adaptive teaching models. Financial institutions use algorithmic tools for fraud detection and risk assessment, while legal systems increasingly explore AI-assisted research, case analysis, and judicial administration.

The rapid expansion of AI has been recognised internationally. According to UNESCO, recent years have witnessed extraordinary advances in artificial intelligence, resulting in innovations that were previously unimaginable. These developments have not only reshaped technological progress but have also generated important discussions concerning ethics, accountability, privacy, human rights, and regulatory governance. Consequently, AI is now viewed not merely as a technological advancement but as a transformative force capable of redefining the relationship between humans, institutions, and intelligent systems in the digital era.

Artificial intelligence research in India formally began in 1986 with the launch of the Knowledge-Based Computer Systems (KBCS) programme, initiated through collaboration between the Indian government and international development efforts. This initiative encouraged research institutions to explore intelligent computing and laid the foundation for AI development in the country. Some of India's early AI projects included machine translation for Indian languages by the Indian Institute of Technology Kanpur, optical character recognition by the Indian Statistical Institute, the flight-scheduling expert system Sarani developed by the Centre for Development of Advanced Computing, speech synthesis systems for Indian Railways by the Tata Institute of Fundamental Research, and AI-based image processing research conducted at the Indian Institute of Science.

Despite these advancements, the growth of AI has also raised significant ethical concerns. Issues such as excessive data collection, invasion of privacy, algorithmic bias in facial recognition systems, and the use of AI for behavioural surveillance continue to generate debate. As computing power and storage capacity expanded in line with Moore's Law, AI systems became

more capable and widespread, making the need for ethical and regulatory frameworks increasingly important.

II. WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial Intelligence (AI) remains a developing concept and, despite its rapid growth, there is still no single universally accepted definition of the term. Different institutions, scholars, and researchers define AI from varying perspectives depending upon whether the focus is on technological capability, machine learning, decision-making, or human-like reasoning. The AI Standardisation Committee in India has also observed that no uniform global definition of artificial intelligence presently exists, reflecting the evolving nature of this field.⁴

One of the earliest philosophical foundations of AI was provided by Alan Turing, who proposed that machine intelligence should be evaluated based on behaviour rather than consciousness. According to his well-known idea, if a machine could communicate with a human in such a convincing manner that the human could not distinguish it from another person, then the machine could be considered intelligent. This concept later became influential in shaping modern discussions surrounding intelligent systems and machine cognition.

Several scholars and institutions have attempted to define AI from different viewpoints. John McCarthy, who is widely recognised for popularising the term “Artificial Intelligence,” described AI as the science and engineering involved in creating intelligent machines, particularly intelligent computer programs.⁵ His definition emphasises the technical and scientific dimensions of building systems capable of performing tasks associated with human intelligence.

Similarly, Andreas Kaplan and Michael Haenlein viewed AI as the ability of a system to interpret external information accurately, learn from collected data, and apply that learning to accomplish specific objectives through adaptive behaviour. Their approach highlights the dynamic and learning-oriented nature of modern AI systems.⁶

From an Indian policy perspective, NITI Aayog defines artificial intelligence as a combination of technologies that allows machines to imitate human capabilities of sensing, understanding,

⁴ AI STANDARDISATION COMM., DEP'T OF TELECOMMS., INDIAN ARTIFICIAL INTELLIGENCE STACK (2020), <https://www.tec.gov.in/pdf/Whatsnew/ARTIFICIAL%20INTELLIGENCE%20%20INDIAN%20STACK.pdf> (last visited May 20, 2026).

⁵ John McCarthy, *What Is Artificial Intelligence?*, https://homes.di.unimi.it/borghese/Teaching/AdvancedIntelligentSystems/Old/IntelligentSystems_2008_2009/Old/IntelligentSystems_2005_2006/Documents/Symbolic/04_McCarthy_whatissai.pdf (last visited May 20, 2026).

⁶ Andreas Kaplan & Michael Haenlein, *Siri, Siri, in My Hand: Who's the Fairest in the Land? On the Interpretations, Illustrations, and Implications of Artificial Intelligence*, 62 BUS. HORIZONS 15 (2019).

reasoning, and acting. This definition places emphasis not only on automation but also on intelligent decision-making and problem-solving.

Broadly understood, artificial intelligence refers to the capability of machines or computer-controlled systems to perform functions that traditionally require human intelligence. These functions may include analysing information, recognising patterns, understanding language, learning from experience, making predictions, solving problems, and adapting to changing environments. Unlike conventional software that follows fixed instructions, AI systems are increasingly designed to improve performance through interaction with data and experience.

In contemporary society, AI extends beyond simple automation and increasingly acts as an augmentative technology that supports human decision-making. Its applications now span healthcare, education, finance, governance, transportation, cybersecurity, and legal systems. As AI becomes more integrated into everyday life, the challenge is no longer limited to defining intelligence but also ensuring that intelligent systems remain transparent, accountable, ethical, and aligned with human values.

III. PREDICTIVE AND PREVENTIVE POLICING IN INDIA

Predictive policing has emerged as one of the most significant applications of artificial intelligence and data analytics in modern criminal justice systems. It refers to the use of statistical models, computational methods, and analytical tools to identify patterns of criminal activity, forecast potential risks, and assist law enforcement agencies in allocating resources more efficiently. Rather than responding only after an offence occurs, predictive policing aims to enable preventive intervention by analysing historical and real-time data to anticipate locations, periods, or conditions associated with criminal behaviour.

The concept itself is not entirely new. Long before the emergence of big data technologies, police departments across the world relied on crime records and trend analysis to support decision-making. For instance, agencies such as the New York City Police Department used crime statistics, information regarding victims, arrest records, and geographical mapping to identify areas vulnerable to criminal activities. However, contemporary predictive policing differs significantly because of the unprecedented volume of available data and the technological capability to process that information at high speed.⁷

⁷ Rohan George, *Predictive Policing: What Is It, How It Works, and Its Legal Implications*, CTR. FOR INTERNET & SOC'Y (Nov. 24, 2015), <https://cis-india.org/internet-governance/blog/predictive-policing-what-is-it-how-it-works-and-it-legal-implications>.

The integration of artificial intelligence, machine learning, cloud computing, and digital surveillance technologies has transformed traditional policing models. Modern systems can analyse large datasets collected from CCTV footage, public records, geographic information systems, emergency reports, social indicators, and historical crime databases. These technologies make it possible to identify hidden patterns and correlations that may not be visible through conventional investigative approaches. As a result, law enforcement agencies increasingly rely on predictive models to support strategic deployment and crime prevention measures.

India has also witnessed a gradual shift towards technology-assisted policing. In January 2020, the government of Himachal Pradesh expanded surveillance capabilities through large-scale installation of CCTV infrastructure to strengthen public monitoring and support preventive policing initiatives. Likewise, the state of Jharkhand invested in digital policing infrastructure with financial assistance from the Ministry of Home Affairs. In collaboration with governance and information technology institutions, predictive tools and data-based policing methods were introduced to enhance law enforcement efficiency and support evidence-based policing practices.

Among the notable initiatives in India, the Crime Mapping, Analytics and Predictive System (CMAPS) introduced by the Delhi Police in 2015 represents an important development in predictive policing. The system was designed to integrate real-time information with analytical techniques to identify crime hotspots and assist police authorities in operational planning. Similar experiments with data-driven policing have subsequently been explored in several other states to strengthen surveillance, optimise deployment of personnel, and improve crime prevention mechanisms.⁸

Despite these technological advancements, predictive policing also raises important legal and ethical concerns. Excessive surveillance may affect individual privacy and civil liberties, while algorithmic systems may reproduce historical biases present in criminal databases. Questions relating to transparency, accountability, due process, and potential discrimination remain central to discussions surrounding AI-enabled law enforcement. Therefore, although predictive policing offers opportunities to improve efficiency and public safety, its implementation must be accompanied by robust legal safeguards, ethical standards, and mechanisms for human

⁸ Ramchandran Murugesan, *Predictive Policing in India: Deterring Crime or Discriminating Minorities?*, LSE HUM. RTS. (Apr. 16, 2021), <https://blogs.lse.ac.uk/humanrights/2021/04/16/predictive-policing-in-india-deterring-crime-or-discriminating-minorities/>.

oversight to ensure that technological innovation remains consistent with constitutional values and the principles of justice.

IV. CHALLENGES TO PREDICTIVE POLICING

The adoption of artificial intelligence in governance and law enforcement offers substantial opportunities for improving efficiency, reducing human error, and enabling evidence-based decision-making. However, technological advancement is not free from challenges. Every innovation introduces new legal, ethical, and social concerns that require careful regulation and institutional oversight. As a result, increasing attention is being given to developing AI systems that are inclusive, transparent, accountable, and accessible while minimising risks of discrimination and exclusion.

In the context of policing, AI-driven tools are often introduced with the objective of reducing subjective human decision-making and improving accuracy in crime prevention strategies. Law enforcement agencies increasingly rely upon predictive technologies to identify patterns, allocate resources, and support investigations. The underlying assumption is that algorithmic systems may reduce arbitrary decision-making and increase operational efficiency. Nevertheless, removing direct human intervention does not necessarily eliminate bias; rather, it may transfer existing social inequalities into automated decision-making systems.

Predictive policing differs from traditional criminal investigation because it does not merely analyse past criminal incidents to identify offenders. Instead, it attempts to forecast future criminal activity by processing historical records and behavioural indicators. This shift from reactive policing to anticipatory governance creates significant legal concerns. Predictive systems depend heavily upon previously collected data, and if such data reflects historical prejudice or unequal policing practices, algorithmic outcomes may reinforce those same inequalities under the appearance of technological neutrality.

This concern becomes particularly significant in societies where certain communities have historically experienced unequal treatment within the criminal justice process. If existing databases disproportionately represent socially disadvantaged groups due to patterns of overpolicing or systemic exclusion, predictive models may continue identifying those groups as higher-risk categories. Consequently, mathematical models that appear objective may unintentionally legitimise structural inequalities and produce discriminatory outcomes.

The dangers of assumption-based policing have also been reflected in judicial observations. In *Ankush Maruti Shinde v. State of Maharashtra*, concerns were raised regarding criminal

suspicion influenced by social identity and preconceived notions.⁹ The case highlighted the broader principle that criminal justice administration cannot operate on stereotypes or assumptions relating to community background. Similar concerns continue to arise regarding the treatment of historically marginalised groups and the possibility that technological systems may replicate existing prejudices instead of eliminating them.

Another significant issue associated with predictive policing is the protection of privacy and informational autonomy. AI systems operate through extensive collection, storage, and analysis of personal data, including behavioural information, movement patterns, communication records, and digital interactions. Such practices directly engage constitutional concerns relating to privacy and individual liberty. In *Justice K.S. Puttaswamy (Retd.) v. Union of India*, the Supreme Court of India recognised privacy as a fundamental right and held that any state action involving collection or processing of personal data must satisfy legality, legitimate state purpose, necessity, and proportionality.¹⁰ This constitutional framework becomes especially relevant where predictive technologies collect and process personal information at scale.

The increasing integration of AI into law enforcement therefore demands stronger governance mechanisms. Transparency in algorithmic decision-making, independent oversight, periodic audits, explainability standards, and legal accountability should become essential components of AI deployment. Citizens should be informed about the collection and use of their data, and meaningful safeguards must exist against misuse by both public authorities and private entities. Regulatory frameworks should also ensure opportunities for review and challenge where automated systems influence rights or legal outcomes.

Ultimately, artificial intelligence should function as a tool to strengthen justice rather than replace constitutional values. Technological efficiency cannot become a substitute for fairness, due process, equality, and human dignity. The future of AI-enabled policing depends not only upon innovation but also upon ensuring that intelligent systems remain consistent with democratic principles and the rule of law.

V. ARTIFICIAL INTELLIGENCE IN PREDICTIVE AND PREVENTIVE POLICING

A. Various Applications of AI in Policing

Predictive policing may be understood as the use of algorithmic systems and large-scale data analysis to anticipate criminal activity and assist law enforcement agencies in preventing offences before they occur. According to scholars in this field, predictive policing involves

⁹ Ankush Maruti Shinde v. State of Maharashtra, 2019 SCC OnLine SC 317 (India).

¹⁰ Justice K.S. Puttaswamy (Retd.) v. Union of India, (2017) 10 S.C.C. 1 (India).

processing extensive datasets through computational models to identify patterns, assess risk factors, and support policing decisions. Unlike conventional policing methods that primarily react to completed offences, predictive policing attempts to shift law enforcement towards a preventive and intelligence-driven approach.¹¹

The expansion of artificial intelligence in policing has resulted in the development of several technological applications, including facial recognition systems, predictive analytics, surveillance networks, automated monitoring tools, behavioural assessment technologies, and integrated command-and-control systems. These technologies are increasingly becoming part of public security frameworks across different jurisdictions.¹²

One of the most widely adopted AI tools in policing is facial recognition technology. Facial recognition systems analyse facial characteristics captured through cameras and compare them against stored databases for identification or verification purposes. Reports indicate that numerous countries have adopted such systems for public security, border management, criminal investigation, and urban surveillance. At the same time, these technologies have generated growing debate concerning privacy, civil liberties, and algorithmic accountability.

Within Europe, several civil society organisations have raised concerns regarding predictive surveillance and have advocated stronger regulatory safeguards to prevent excessive state monitoring.

India has also witnessed rapid growth in technology-driven policing. Surveillance infrastructure has expanded considerably across major urban centres through installation of CCTV networks and digital monitoring systems. Cities such as Delhi, Chennai, Mumbai, Hyderabad, and Indore have increasingly integrated camera-based surveillance into public administration and law enforcement operations. Reports have consistently highlighted the growing density of surveillance infrastructure in Indian metropolitan regions.

For example, initiatives undertaken by the Kolkata Police included expansion of CCTV deployment to strengthen traffic management, detect violations, and improve urban monitoring capabilities. Similarly, proposals by the government of Telangana to establish integrated police command centres demonstrate a transition toward real-time monitoring and centralised policing mechanisms. Such systems aim to consolidate information from multiple surveillance sources and provide law enforcement agencies with faster access to actionable intelligence.

¹¹ Talia Lau, *Predictive Policing Explained*, BRENNAN CTR. FOR JUST. (Apr. 1, 2020), <https://www.brennancenter.org/our-work/research-reports/predictive-policing-explained>.

¹² *Id.*

Globally, countries including China, the United States, the United Kingdom, Japan, Brazil, and Singapore have increasingly adopted AI-enabled policing tools. In several cities within the United States, experimental use of facial recognition and automated surveillance has been explored for public safety purposes. Meanwhile, China has developed extensive urban surveillance networks and advanced monitoring infrastructure that are often discussed as examples of large-scale state-enabled technological governance.

Another important development is the integration of biometric identification technologies. India possesses one of the world's largest digital identity infrastructures, incorporating biometric indicators such as fingerprints and iris-based authentication. While these technologies may improve administrative efficiency and identity verification, concerns remain regarding data protection, proportionality, consent, and the possibility of function creep, where information collected for one purpose may later be used for unrelated surveillance objectives.

The increasing use of AI in policing demonstrates both the promise and complexity of technological governance. On one hand, these systems may improve operational efficiency, optimise deployment of police personnel, strengthen investigation, and support public safety. On the other hand, excessive surveillance, inaccurate facial recognition outcomes, lack of transparency, and mass data collection raise concerns under constitutional values relating to privacy, equality, and individual liberty. Therefore, the future of AI-enabled policing should be guided not only by technological capability but also by legal safeguards, democratic oversight, accountability mechanisms, and human rights protections.

B. The United States and AI Policing

The United States remains one of the leading jurisdictions in the development and deployment of artificial intelligence technologies. AI in the United States is increasingly being applied across multiple sectors, including economic competition, employment generation, healthcare, data governance, national security, law enforcement, and industrial innovation. Within the policing and public administration framework, technologies such as facial recognition systems, predictive analytics, automated surveillance, and data-driven decision-making have received considerable attention.¹³

Particularly in the field of law enforcement, predictive policing and facial recognition technologies have become important tools for crime prevention, public safety, and investigation. These systems are designed to process large datasets, identify behavioural patterns, and assist

¹³ Irakli Beridze & Summer Walker, *Artificial Intelligence in Policing*, GLOB. INITIATIVE AGAINST TRANSNAT'L ORGANIZED CRIME (Nov. 8, 2018), <https://globalinitiative.net/analysis/artificial-intelligence-in-policing/>.

authorities in making informed operational decisions. However, alongside technological progress, concerns regarding privacy, data protection, civil liberties, and algorithmic accountability have also become central to public debate.

Unlike some jurisdictions that rely on a single comprehensive AI statute, the United States has historically adopted a sector-specific and principle-based regulatory approach. Rather than imposing one uniform framework for all AI applications, regulation has evolved through a combination of agency guidance, policy recommendations, industry standards, and constitutional protections. This approach reflects the dynamic nature of AI development while attempting to preserve innovation.

To guide responsible AI governance, the White House Office of Science and Technology Policy proposed broad principles for the design and implementation of AI-related regulatory and non-regulatory measures. These principles emphasise transparent risk assessment mechanisms, effective risk management strategies, consideration of societal costs and benefits, and evaluation of broader social impacts before deploying AI systems. They also encourage policymakers to address ethical concerns, maintain public trust, ensure accountability, and adopt flexible governance models capable of responding to rapid technological changes.

Another important consideration in the American regulatory discourse is the need for transparency and explainability. Public acceptance of AI systems depends significantly on whether individuals understand how decisions are made and whether there are mechanisms to challenge automated outcomes. Therefore, increasing emphasis has been placed on disclosure requirements, fairness assessments, human oversight, and responsible data management practices.

From an economic perspective, the United States continues to remain among the largest investors in artificial intelligence research, infrastructure, and private-sector innovation. Major investments by technology companies, research institutions, and government agencies have contributed to maintaining its leadership position in the global AI ecosystem. Nevertheless, increasing competition from China has intensified debates regarding long-term technological leadership. China's rapid advancement in AI infrastructure, data ecosystems, and state-supported innovation models has led many scholars to argue that future global leadership in AI will depend not merely on financial investment but also on regulatory efficiency, talent development, responsible governance, and the ability to translate research into scalable applications.

Thus, the experience of the United States demonstrates that technological advancement alone is insufficient. Sustainable AI development requires balancing innovation with constitutional values, public trust, data privacy, ethical safeguards, and effective institutional regulation.

C. China and the Use of Artificial Intelligence in Policing

China has emerged as one of the most advanced jurisdictions in integrating artificial intelligence into surveillance and policing practices. Over the past decade, China has invested extensively in digital governance infrastructure and AI-enabled public security systems. Chinese technology companies have developed sophisticated platforms capable of collecting, organising, and analysing large volumes of citizen data to support administrative functions and law enforcement activities. These developments have contributed to positioning China as a global leader in large-scale surveillance technologies.¹⁴

One of the defining characteristics of China's approach is the extensive deployment of camera-based monitoring systems integrated with facial recognition and data analytics. Urban areas across the country have witnessed rapid expansion of intelligent surveillance networks, and similar technological initiatives have increasingly extended into semi-urban and rural regions. These systems are designed to support crime prevention, public order management, traffic regulation, and real-time situational awareness.

China has also experimented with AI-enabled robotic policing mechanisms. For example, the city of Handan introduced AI-supported robotic systems equipped with facial recognition capabilities, autonomous navigation functions, and real-time information processing. These systems were intended to assist law enforcement authorities in patrolling public areas, managing traffic-related incidents, and providing operational support. Their functioning relies upon integration with large-scale databases and intelligent analytics infrastructure, reflecting broader technological objectives promoted under China's national development strategies.

Another notable example of AI-assisted policing emerged in 2017 when police authorities in Zhengzhou introduced smart eyewear technology integrated with facial recognition software. These wearable devices enabled officers to compare captured images with identity databases in real time, allowing faster verification and identification processes during security operations. Such technologies demonstrated how artificial intelligence could enhance operational efficiency and reduce the time required for manual verification.

¹⁴ Bryan Ke, *China Deploys First AI Robot Police That Tackles Criminals*, NEXTSHARK (Dec. 6, 2018), <https://nextshark.com/china-ai-robot-police/>.

China's broader surveillance ecosystem also incorporates extensive CCTV deployment combined with biometric identification technologies. Large-scale integration of facial recognition systems with centralised databases has enabled authorities to conduct monitoring and investigative functions at unprecedented scale. Supporters argue that these technologies improve public safety, urban management, and emergency response capabilities. However, critics continue to raise concerns regarding privacy, proportionality, transparency, and the potential impact of extensive state surveillance on civil liberties.

From a strategic perspective, China's investment in artificial intelligence extends beyond policing and forms part of a broader ambition to become a global leader in emerging technologies. Significant state support, large datasets, rapid infrastructure development, and close coordination between government and industry have accelerated China's AI ecosystem. While the United States continues to remain a major force in AI innovation and research, China's model demonstrates an alternative path that emphasises scale, integration, and state-led implementation.

The competition between the United States and China illustrates that future leadership in artificial intelligence will not depend solely upon technological capability but also upon governance structures, ethical standards, public trust, and the ability to balance innovation with individual rights. As AI, machine learning, and data science continue to expand globally, China's experience provides an important case study on both the opportunities and challenges of technology-driven policing systems.

VI. CONCLUSION

Artificial intelligence is increasingly being integrated into modern policing through technologies such as wearable body cameras, automated crime documentation, and systems that generate crime forecasts and analytical reports. These tools are intended to improve efficiency, support investigations, and assist law enforcement agencies in making informed decisions. However, one of the more controversial and impactful applications of AI lies in its potential use for determining whether criminal conduct has occurred.

A prominent example is predictive policing, where AI-based systems analyse historical and real-time data to estimate the likelihood of future criminal incidents, identify possible crime hotspots, and predict the time and location at which specific offences may occur. These technologies aim to shift policing from a reactive model to a preventive approach.

Despite these advantages, AI systems are not independent or infallible decision-makers. Their outcomes depend upon algorithms created by human developers and datasets selected and

provided by human institutions. Since human judgement and historical data may contain errors, assumptions, or biases, AI systems can reproduce or even amplify those shortcomings. Consequently, concerns arise when such technologies influence decisions that directly affect individual liberty, criminal responsibility, or access to justice.

Delegating sensitive law enforcement functions entirely to automated systems raises serious ethical and legal questions, particularly where inaccurate outcomes may lead to wrongful suspicion, investigation, detention, or criminal charges. Therefore, while AI can serve as an important support mechanism in policing, final decision-making should remain subject to meaningful human oversight.

To address these concerns, governments and regulatory authorities must establish comprehensive technological safeguards, legal standards, and accountable algorithmic frameworks. Effective governance should include transparency requirements, audit mechanisms, bias assessments, privacy protection measures, and clear rules regarding the responsible use of AI in policing to ensure that innovation remains consistent with constitutional values and human rights principles.
