



Reforming the Criminal Justice System in Jammu and Kashmir: The Role of AI and Information Technology in Policing

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Abstract

On a worldwide scale, the combination of information technology (IT) and artificial intelligence (AI) is changing the criminal justice system and law enforcement. Digital technology and AI-driven solutions offer great promise for enhancing public safety, crime prevention, and investigation in Jammu and Kashmir, where police face particular difficulties. This paper investigates how local policing is being modernized using artificial intelligence and information technology in an effort to address issues such as cybercrime, terrorism, and maintenance of public order. It also emphasizes the advantages and potential future developments of technology-driven changes to the criminal justice system of Jammu and Kashmir.

Keywords: Artificial Intelligence. Information Technology. Crime Prevention. Criminal Justice System. Police Modernization. Jammu and Kashmir.

1 Introduction

“There is no doubt that Artificial Intelligence (AI) is transformative, but it is up to us to make it more transparent. Trust in AI will increase only when it is ethical as well as economic, and all its social aspects are taken into account” (Modi [15]). To prevent and control crime, law enforcement depends on obtaining, analyzing, and acting upon information. Large volumes of behavioral data from various sources are necessary for effective policing. In the future, artificial intelligence is probably going to be a big part of crime prevention as sensors and big data become more prevalent (Bureau of Police Research and Development [2]). A collection of technologies known as artificial intelligence (AI) has made it possible for computers to carry out sophisticated tasks like image recognition, language processing and translation, data analysis, and decision-making (Google Cloud [7]). Any device or networked system, including subsystems, that makes it easier for the executive agency to automatically gather, store, process, manage, transfer, control, display, exchange, transmit, or receive data or information is considered information technology (CSRC Content Editor [3]). India's main laws for stopping cybercrimes are the Information Technology (IT) Act, 2000 and its amendments. These laws set forth standards for the examination and prosecution of

cybercrimes, in addition to the sanctions imposed on offenders. Additionally, they categorize cybercrimes, including unauthorized access, data theft, cyberfraud, and other illegal online actions (Government of India [8]). The newly enacted criminal laws known as Bharatiya Nyaya Sanhita (BNS), Bharatiya Nagarik Suraksha Sanhita (BNSS), and Bharatiya Sakshya Adhinyam (BSA) have replaced colonial-era legislation in an effort to fortify India's legal system. Digital applications like e-Sakshya, e-Summon, Nyaya Setu, and Nyaya Shruti have been developed to support the execution. They improve how evidence is stored, facilitate remote witness testimonies, and make police court interactions more efficient. These technological innovations strengthen the legal system in India by enhancing its efficiency, ease of use and coordination, thereby fostering greater transparency and expediting the resolution of cases (National Informatics Centre [19]).

2 Objectives of the Study

1. To examine the role of Artificial Intelligence and Information Technology in modernizing the policing system in Jammu and Kashmir.
2. To analyze the effectiveness of AI-driven and ICT-based tools used by Jammu and Kashmir Police in crime prevention, investigation, and public safety.
3. To identify the challenges, opportunities, and future implications of integrating Artificial Intelligence and Information Technology into the criminal justice system of Jammu and Kashmir.

3 Literature Review

In India, (AI) has become increasingly important because it helps the police stop crimes and catch criminals. It is also used to reunite families, identify people who should get help from government programs, and find the bodies of people who have died but haven't been claimed (Rani [26]). Technological advances have made it much easier to digitise cases and use electronic filing systems. This cuts down on paperwork and helps speed up legal processes by giving courts and law enforcement quick access to case details (Thakare [27]). Thanks to new technology, machines can now do jobs that people used to do, and while doing them, they create digital data. Paper documents are being replaced by computerized systems that include machine learning and digital ledgers (Tiwari [29]). The workload of the police force has increased in tandem with the rise in accountability and transparency. ICT raises organizational credibility, professional abilities, and status while increasing crime control effectiveness (Kumar [13]). For India's political stability and economic development, police reform is essential. Maintaining law and order inevitably leads to stability and consistent economic growth (Bhattacharya & Kaur [1]).

4 Discussion and Analysis

Talks with twenty police officers working in Jammu and Kashmir Police cyber cell revealed to us that the Jammu and Kashmir Police employs a broad range of AI tools including drones, AI-based facial recognition technology, and body cameras used by Traffic Police. Jammu and Kashmir Police also employs several ICT applications including CCTNS, ITSSO, e-Suttra, etc. which are covered as follows:

To improve the accountability and transparency of law enforcement, the Jammu and Kashmir Traffic Police uses Body Cameras for vehicles' e-challans. By recording conversations in real time, these gadgets ensure that moving violations are handled equitably and reduce conflict (Jammu and Kashmir Traffic Police [12]).

To increase security and promptly identify those engaged in criminal activity, the Jammu and Kashmir Police have started using facial recognition software driven by artificial intelligence. This technology helps to catch offenders, helps locate missing persons, and improves the effectiveness of surveillance (Express News Service [6]).

Terrorists are being identified and eliminated using Drones and Artificial Intelligence. While AI analyzes the data to find possible threats, enhancing the accuracy and security of counterterrorism operations, drones record real-time ground footage (TOI News Desk [30]).

By including technology into law enforcement, the Crime and Criminal Network & Systems (CCTNS) has improved the efficiency of policing all over India. From July 1, 2021, 97 percent of the 16,276 police stations were linked, therefore enhancing FIR filings, increasing database accessibility, and supporting crime tracking and investigations (National Crime Records Bureau [17]). CCTNS is used by the Jammu and Kashmir Police to digitize criminal data, strengthen investigations and provide public services. Real-time data access, crime tracking, and information sharing all support law enforcement, therefore guaranteeing efficiency, openness, and improves crime prevention (The Economic Times [28]).

The Inter-operable Criminal Justice System (ICJS), which makes data transfer between courts, law enforcement, prisons, and forensic labs easier, improves judicial efficiency. It provides High Courts and lower courts with immediate access to charge sheet and FIR metadata and was initiated by the Supreme Court's e-Committee (e-Committee [4]). The Jammu and Kashmir Police use ICJS to digitize case data, upload charge sheets and FIRs, and enhance judicial coordination. ICJS enhances the criminal justice system and increases compliance in sensitive areas by means of data standardization and real-time case monitoring (Home Department, Jammu and Kashmir [10]).

The Investigation Tracking System for Sexual Offences (ITSSO) is an online analysis tool intended to track investigations into sexual assault cases under time constraints, enabling real-time monitoring at all police levels (Press Information Bureau [23]). ITSSO assists the Jammu and Kashmir Police in allocating resources, efficiently monitoring cases, and enhancing the promptness of investigations. ITSSO enhances accountability and fortifies the justice delivery system by producing case-ageing reports and identifying best practices (UN Women Data Hub [31]). Cri-MAC (Crime Multi-Agency Centre) makes it possible for people all over India to share information in real time about serious crimes like human trafficking. It facilitates effective investigations, and crime prevention by producing alerts and ensuring secure communication between Police units (Press Information Bureau [24]).

The Indian Cyber Crime Coordination Center (I4C) runs the National Cyber Reporting Platform (NCRP), a central repository for filing cybercrime complaints that are then sent to the appropriate State or Union Territory. I4C supports State and UT law enforcement under BNSS/CrPC (Ministry of Home Affairs [14]).

The TrackChild and Khoya-Paya websites were created by the Ministry of Women and Child Development to help with the tracking of missing children. While Khoya-Paya assists with public engagement, improving coordination and real-time tracking for family reunions, TrackChild works with important stakeholders (Press Information

Bureau [22]). By November 2023, 3,97,530 of the 4,46,000 missing children found through the Khoya Paya portal had been found and reunited with their families (NDTV [20, 21]).

The Digital Police portal lets people ask for background checks on employees or tenants and file crime complaints online. It also provides access to the National Crime Records Database for investigation and study by authorized professionals (National Crime Records Bureau [18]). This platform is utilized by the Jammu and Kashmir Police for enhanced citizen services, background checks, and crime tracking. The incorporation of digital records improves public safety and law enforcement effectiveness (Jammu and Kashmir Police [11]).

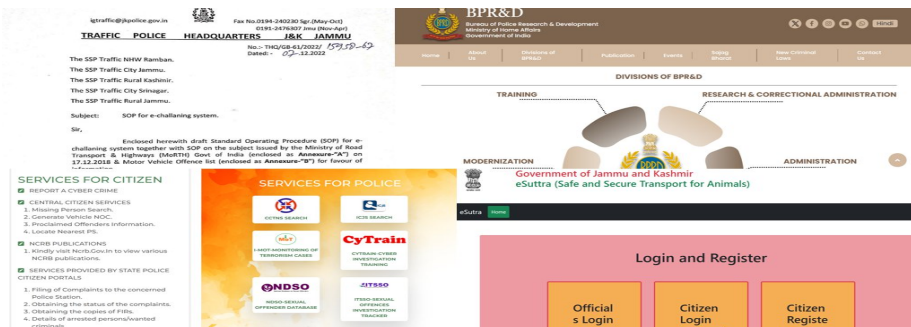
A centralized database for tracking drug offenders in custody is called the National Integrated Database on Arrested Narco-Offenders, or NIDAAN. It was developed in partnership with ICJS and integrates data from E-Prisons and the Narcotics Control Bureau's Seizure Information Management System (SIMS). This system improves intelligence gathering, supports drug enforcement, and fortifies investigations (Narcotics Control Bureau [16]).

To improve road safety in India, MoRTH launched the Integrated Road Accident Database (iRAD) project, which was funded by the World Bank. It establishes a standardized system that includes the highways, police, transportation, and health departments for collecting accident data nationwide. By enhancing data accuracy and coordination, iRAD supports road safety, accident prevention, and policy-making efforts (Government of India [9]).

Animal transportation and purchase approval are streamlined by the e-Suttra (Safe and secure Transport for Animals) portal, which uses an online application process. Transportation of animals is made more efficient, and transparent by automating approvals (Excelsior [5]).

For law enforcement's benefit, the NCRB maintains the National Database on Sexual Offenders (NDSO), which keeps tabs on and tracks sexual offenders throughout India. Since 2005, it has received multiple updates aimed at improving public safety monitoring, discouraging recurrent offences and supporting investigations (Press Information Bureau [22]).

Figure 1 Screenshots of Different ICT Websites used by Jammu and Kashmir Police



Source: Compiled from various websites of Law Enforcement Agencies

Cyber cell officials of Jammu and Kashmir Police emphasized that the advanced technologies like AI-driven surveillance, digital forensics, and real-time data analysis have strengthened law enforcement when asked about the efficacy of Artificial Intelligence and Information Technology. They also highlighted how these tools improve police openness, quick response and cybercrime prevention. Jammu and Kashmir Police cyber cell officials underlined Information Technology and Artificial Intelligence as important for the future of law enforcement and crime prevention. The developments in real-time data analysis and AI-driven surveillance will surely improve security and efficiency in the region. Addressing new cyber threats and guaranteeing public safety required constant upgrades and specialized training.

5 Conclusion

Artificial Intelligence (AI) is changing India's legal system and law enforcement through improved efficacy, accessibility, and decision-making. Its application to case management, legal research and law enforcement enhances access to justice, speeds up procedures, and reduces delays (Press Information Bureau [25]). Administration, cybersecurity and finance are just a few of the industries that AI has the potential to completely change. When combined with quantum computing, it will surpass current capabilities, enabling ground-breaking progress. Law enforcement organizations are increasingly using AI to enhance public safety and crime prevention and to foster a more efficient, secure and well-functioning society (Verma [32]).

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

References

1. Bhattacharya, S., Kaur, S.B.: Police reforms—its merit and demerit over Indian public administration and its effect on Indian civilization. *IJMER* (2021)
2. Bureau of Police Research and Development: AI in the service of law enforcement—an introduction. Bureau of Police Research and Development (2022). <https://bprd.nic.in/uploads/pdf/AI%20in%20the%20service%20of%20Law%20Enforcement-%20a%20n%20Introduction.pdf>
3. CSRC Content Editor: Information technology (IT)—Glossary. CSRC. <https://csrc.nist.gov/glossary/term/informati on technology>
4. e-Committee, Supreme Court of India: ICJS | Official website of E-Committee, Supreme Court of India (2025). <https://ecommitteesci.gov.in/icjs/>
5. Excelsior: DC Rajouri launches e-SUTTRA portal. Daily Excelsior (2023). <https://www.dailyexcelsior.com/dc-rajouri-launches-e-suttra-portal>
6. Express News Service: Police activate AI-based facial recognition system in J-K's Ramban. The Indian Express (2024). <https://indianexpress.com/article/india/police-e-activate-ai-based-facial-recognition-system-in-j-ks-ramban-9306558/>

7. Google Cloud: What is artificial intelligence (AI)? Google Cloud.
<https://cloud.google.com/learn/what-is-artificial-intelligence>
8. Government of India: Information Technology Act 2000 and related procedures. eProcurement System of India (2000).
<https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdicswfdelrquehwuxcfmijmuixngudufgbuubgubfugbububjxcgfvvsbdiibgFGhdfgFHytyhRtMjk4NzY=>
9. Government of India: IRAD—Integrated Road Accident Database (2025).
<https://araria.nic.in/irad-integrated-road-accident-database/>
10. Home Department, Jammu and Kashmir: Government Order No. 145-Home of 2021 (2021).
<https://www.jkhome.nic.in/pdf/145of2021.pdf>
11. Jammu and Kashmir Police: Official website (2025). <https://www.jkpolice.gov.in/>
12. Jammu and Kashmir Traffic Police: Standard operating procedures (2022).
<https://jktrafficpolice.nic.in/documents/Rules/SOP.pdf>
13. Kumar, B.: Role of information and communication technology in Indian police. Gian Jyoti E-Journal (2012)
14. Ministry of Home Affairs: Indian Cyber Crime Coordination Centre (I4C) (2025).
<https://cyberpolice.nic.in/>
15. Modi, N.: Vigilant India: DGs/IGs Conference, 19th Issue (1–15 Jan). Bureau of Police Research and Development (2021).
https://bprdnic.in/uploads/pdf/Vigilant%20India_DGIGPconference_%2019th%20Issue%201-15%20Jan%20English%20Printing.pdf
16. Narcotics Control Bureau: User manual NCORD portal. In: NCORD Portal (2025).
<https://www.narcoordinia.gov.in/narcoordinia/Magazines/1666351520-4611-DOC-USER%20MANUAL%20of%20NIDAAN.pdf>
17. National Crime Records Bureau: About us—Digital Police Portal (CCTNS) (2021).
<https://digitalpolice.gov.in/DigitalPolice/AboutUs>
18. National Crime Records Bureau: Digital Police Portal (2025).
<https://digitalpolice.gov.in/>
19. National Informatics Centre: Hon’ble Union Minister launches four digital platforms to modernize India’s criminal justice system (2024).
<https://informatics.nic.in/files/websites/october-2024/honble-union-home-minister-launches-four-digital-platforms-to-modernize-indias-criminal-justice-system.php>
20. NDTV: 4.46 lakh missing children found since 2015, most reunited with families: Smriti Irani. NDTV (2023).
<https://www.ndtv.com/india-news/4-46-lakh-missing-children-found-since-2015-most-reunited-with-families-smriti-irani-4416831>
21. Press Information Bureau: Online tracking system/portals for missing children (2018).
<https://pib.gov.in/newsite/PrintRelease.aspx?relid=175406>

22. Press Information Bureau: Union Home Minister launches two portals to strengthen women safety (2018).
<https://pib.gov.in/PressReleasePage.aspx?PRID=1546835>
23. Press Information Bureau: Union Home Minister to launch various women safety initiatives tomorrow (2019).
<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1565023>
24. Press Information Bureau: Anti-trafficking cases (2023).
<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1942472>
25. Press Information Bureau: Digital transformation of justice: Integrating AI in India's judiciary and law enforcement (2025).
<https://pib.gov.in/PressReleasePage.aspx?PRID=2106239>
26. Rani, M.: Impacts and ethics of using artificial intelligence (AI) by the Indian police. *Public Administration and Policy: An Asia-Pacific Journal* 27(2), 182–192 (2024)
27. Thakare, P.M.: Analysis on the technological innovation in criminal justice reform in India. *IJARCT* (2024)
28. The Economic Times: CCTNS connects 158 police stations in Jammu and Kashmir (2016).
<https://economictimes.indiatimes.com/news/politics-and-nation/cctns-connects-158-police-stations-in-jammu-and-kashmir/articleshow/51327723.cms>
29. Tiwari, S.P.: Using digital technology to transform organizational development: A perspective. *Central Asian Journal of Mathematical Theory and Computer Sciences* 4(4), 35–40 (2023).
<https://doi.org/10.17605/OSF.IO/8E9MY>
30. TOI News Desk: J&K: Security forces use AI, unmanned vehicle to neutralise 3 terrorists with “big purpose.” *The Times of India* (2024).
<https://timesofindia.indiatimes.com/india/jk-security-forces-use-ai-unmanned-vehicle-to-neutralise-3-terrorists-with-big-purpose/articleshow/114734060.cms>
31. UN Women Data Hub: Measures details: Investigation tracking system for sexual offences – India (2019).
<https://data.unwomen.org/global-database-on-violence-against-women/country-profile/India/measures/Investigation%20Tracking%20System%20for%20Sexual%20Offences>
32. Verma, A.: The future of policing in an era of AI & machine learning. *newmediacomm.com* (2024).
<https://newmediacomm.com/the-future-of-policing-in-an-era-of-ai-machine-learning/>

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