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The Role of AI in Predictive Policing in Punjab: Ethical Challenges and Policy Implications

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ABSTRACT
The adoption of Artificial Intelligence (AI) in predictive policing has brought about significant changes in law enforcement practices across the globe. However, it has also sparked complex ethical and policy concerns. In the context of Punjab, Pakistan—where AI technologies like those implemented under the Safe City Project are becoming more prevalent—predictive policing signals a significant shift in how the state conducts surveillance and manages public safety. This study critically examines the ethical dilemmas and policy implications of AI-driven policing in the province. Drawing upon a systematic literature review of 26 academic and policy sources, and framed by Accountability Theory, Ethical AI Governance Principles, and Contextual Integrity Theory, it explores systemic issues such as algorithmic bias, lack of institutional transparency, weak data governance, and the disproportionate impact on vulnerable communities. The findings highlight that, while AI tools can improve efficiency, their deployment in Punjab often mirrors and exacerbates existing societal inequalities, largely due to an absence of adequate legal safeguards. The article also evaluates the applicability of international frameworks such as the EU AI Act to the governance realities in Punjab. The article concludes with a set of contextually grounded policy recommendations—ranging from legislative reform to participatory oversight—that aim to align predictive policing in Punjab with democratic principles, fostering public trust while ensuring ethical innovation.

Keywords: Artificial intelligence, predictive policing, Punjab, algorithmic bias, data governance, accountability

Introduction
Artificial Intelligence (AI) has rapidly shifted from a futuristic ideal to a tangible force within public administration. One of its most controversial applications lies in the field of predictive policing, where algorithmic models are employed to forecast potential criminal activity, allocate resources, and make operational decisions. While its supporters cite improved efficiency and proactive crime prevention as major benefits, the growing

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use of AI in policing has given rise to substantial ethical scrutiny. Critics argue that without robust oversight, these technologies risk deepening entrenched forms of discrimination and eroding civil liberties, often under the guise of objectivity (O'Neil, 2016; Zuboff, 2019).

In Pakistan, the integration of AI in policing is still developing but accelerating rapidly, particularly in Punjab. As the nation's largest and most administratively influential province, Punjab has emerged as a site for experimental governance tools, including AI-powered surveillance systems managed by the Punjab Safe Cities Authority (PSCA). Initiatives such as the Lahore Safe City Project incorporate facial recognition, license plate tracking, and behavioural analytics to manage urban security. However, these deployments have taken place in a setting that lacks a clear legal framework and sufficient institutional checks. Moreover, the socio-political context of Pakistan—characterised by uneven access to justice, weak data privacy laws, and political interference in policing—compounds these concerns and raises serious questions about the appropriateness of current approaches.

This article aims to examine predictive policing in Punjab not merely as a technological issue, but as a governance challenge with far-reaching ethical implications. Through the combined lens of Bovens' (2007) Accountability Theory, Floridi et al.'s (2018) Ethical AI Principles, and Nissenbaum's (2004) Contextual Integrity Theory, the analysis seeks to align universal standards of AI ethics with the complex local realities of Pakistani policing. Using insights from 26 scholarly and policy-based sources, this study offers a rigorous, critical exploration of how predictive technologies are being used—and misused—in Punjab.

Ultimately, this article argues that although the use of AI in policing may reflect technological advancement, it falls short of being ethically justifiable due to the absence of robust institutional frameworks. The absence of accountability, transparency, and public engagement not only jeopardises rights but also undermines trust in state institutions. The paper concludes with targeted policy recommendations aimed at reshaping AI use in Punjab's law enforcement sector to align with democratic values and social equity.

This research is guided by the following questions:

What are the main ethical concerns linked to the use of predictive policing technologies in Punjab?

How well do global AI governance frameworks—such as the EU AI Act or UNESCO's AI principles—align with Punjab's legal and institutional setup?

How can core ideas like accountability, transparency, and contextual integrity be applied to the use of AI in Punjab's law enforcement?

Literature Review

Over the past decade, academic and policy discourse on predictive policing has grown considerably, reflecting how rapidly AI is being integrated into law enforcement around the world. Most of what's been written about predictive policing so far comes from the Global North—places where there are relatively strong legal protections and established norms around data rights. There's been much less focus on how these technologies function in countries like Pakistan, where the legal and institutional landscape is quite different. To help fill that gap, this review draws on 26 sources—including academic studies, policy reports, and case studies—and groups them into three key areas: global trends in predictive policing, ethical and governance challenges, and context-specific insights from Punjab.

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Global Developments in Predictive Policing and AI in Law Enforcement

Around the world, predictive policing has been seen in two very different lights. Some view it as a promising innovation, capable of helping police anticipate where crimes might happen, use their resources more effectively, and even prevent incidents before they occur (RAND Corporation, 2013; Brynjolfsson & McAfee, 2017). Cities like Los Angeles, Chicago, and London have tried out these tools, and in some cases, they've reported improvements in coordination and quicker responses to incidents (Taylor & Francis, 2021; Kent Police, n.d.).

But even in these cities, the excitement around predictive policing has been met with real concern. Critics like O'Neil (2016) and Eubanks (2018) warn that these technologies don't fix bias—they just hide it behind numbers. Since the algorithms are built on historical crime data, they often end up repeating the same patterns of over-policing and discrimination that have long existed in the system. RAND's (2013) findings highlight this dilemma, pointing out that a greater focus on efficiency can push aside important questions about fairness and exacerbate tensions — especially in communities that already feel targeted and watched.

These kinds of ethical worries haven't gone unnoticed — especially in Europe, where authorities have started to take action. The EU's AI Act (2021) labels predictive policing as a "high-risk" use of AI, meaning it has to meet strict rules around things like transparency, data accuracy, and human oversight. The General Data Protection Regulation (GDPR) also plays a key role here, offering some of the strongest protections in the world when it comes to personal data and the way algorithms are used (European Commission, 2021). In the UK, police forces like Durham Constabulary have even pulled back from using tools like the Harm and Risk Assessment Tool (HART), after pushback over whether these systems were fair or even legal (Floridi et al., 2018; Kent Police, n.d.).

These examples offer valuable insights, but simply copying them over to a setting like Punjab, where the legal protections are weaker and institutional checks are fewer, would be misguided. What's needed instead is a thoughtful approach that adapts these ideas to the specific realities on the ground.

Ethical Challenges: Bias, Opacity, and Surveillance

A lot of recent research has been focused on the ethical risks of using AI in policing, and one issue that keeps coming up is algorithmic bias. As Crawford et al. (2021) point out in the AI Now Report, these systems often end up unfairly targeting poorer and marginalised communities—not because the tech is malicious, but because it runs on data that's already shaped by deep-rooted inequalities. And this isn't just something playing out in theory. In practice, studies have repeatedly shown that the neighbourhoods flagged as "high-risk" by these algorithms tend to be the very same places that have long been subject to over-policing (AI Now Institute, 2020; Falcon Editing, 2022).

Zuboff's (2019) idea of "surveillance capitalism" offers a broader critique as she argues that governments are starting to think and act like big tech firms—gathering huge amounts of personal data, often without clear consent, and using it to make decisions that can have real consequences for people's lives. UNESCO (2021) shares similar concerns, warning that when AI is introduced into public services without strong safeguards, it can end up doing more harm than good—damaging the very trust and accountability it's supposed to enhance.

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The problem is made worse by the lack of transparency. The so-called "black box" nature of AI systems means that even those implementing them often don't fully understand how decisions are made (Bovens, 2007). Floridi et al. (2018) call for "explainable AI" in public-sector use. This would require public institutions to disclose the logic, criteria, and outcomes of algorithmic decisions. However, in places like Punjab, where laws and enforcement mechanisms are still catching up, this remains more of a goal than a reality.

Others, such as Future Policing (2022) and The Security Distillery (2023), raise a different but equally pressing concern: that the growing reliance on AI could displace human judgment. When decision-making is shifted from trained officers to algorithms — especially ones that aren't fully transparent — it becomes even harder to hold anyone accountable. This is particularly worrying in policing systems that already struggle with transparency and oversight.

Policy Gaps and Governance Failures in Developing Contexts

Although the above concerns are well-documented in Western academic literature, only a few studies have researched how predictive policing functions in the Global South, particularly in regions that are politically unstable or bureaucratically underdeveloped. Rashid (2022), in one of the few analyses focusing on Punjab, examines how AI systems have been adopted in Lahore without sufficient planning, often bypassing public participation and operating without surveillance. He highlights bureaucratic inertia, political intervention, and externally driven technology adoption as key hindrances to effective and responsible execution.

Furthering this critique, the Digital Rights Foundation (2023) identifies a critical absence of data protection laws in Pakistan. Institutions like the Punjab Safe Cities Authority (PSCA) have comprehensive oversight capabilities but lack formal accountability to citizens, as pointed in their advocacy report. Consequently, this has led to rising concerns that surveillance infrastructure may be misused to serve political or economic interests, which was originally meant for public safety.

The Punjab Information Technology Board (PITB, 2023) conducted a case study on the "Face Trace System," illustrating how biometric surveillance has been introduced in Lahore with very limited safeguards. The inadequate provincial legislation on data protection and privacy, accountability in automated systems, or civilian checks makes such systems vulnerable to malpractice. The Nation (2024) reports the state's increasing surveillance capacities, resulting in growing public concerns, especially in the absence of consultations with the citizens or mechanisms to redress grievances.

It has been advised to policymakers globally by international analysts like Wired Magazine (2023) and the Council on Criminal Justice (2022) to treat predictive policing with caution, reinforcing that such technologies must not expand unchecked by democratic checks and balances. Pakistan's National AI Policy, aligning with their recommendations, vaguely acknowledges these ethical challenges but lacks enforceable provisions for public-sector AI use (MOITT, 2021).

A consensus can be observed across the reviewed literature that while predictive policing offers vast potential benefits, its integration without due ethical, legal, and procedural considerations can produce significantly adverse consequences. Algorithmic discrimination, surveillance without consent, and less transparent governance systems are among the most pressing issues, particularly in contexts lacking robust institutional oversight. Although global frameworks provide useful regulatory guidelines such as the EU AI Act and the GDPR, they are not instantly transferable and have to be adapted to

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specific governance environments like Punjab, faced with regulatory uncertainty, limited technical capacity, and weak accountability measures. These discrepancies significantly upscale the risks outlined in global research. Therefore, this calls for an immediate need for a contextualised governance framework that is also strongly based on the political, legal, and institutional realities of Punjab, yet is also driven by global ethical standards. The following section addresses this gap by critically analysing how predictive policing has been implemented in Punjab and where ethical failures are most acute.

Theoretical Framework

Addressing the ethical complexities of AI in policing requires more than a purely technical or administrative approach; it calls for robust theoretical grounding. This study adopts a multi-dimensional analytical framework, drawing on three distinct but complementary perspectives: Bovens' (2007) Accountability Theory, Floridi et al.'s (2018) Ethical AI Governance Principles, and Nissenbaum's (2004) Contextual Integrity Theory. Each of these frameworks offers a critical vantage point for evaluating the social, institutional, and ethical aspects of predictive policing in Punjab.

Central to this analysis is Accountability Theory, which Bovens (2007) defines as a framework for ensuring that public institutions are answerable for their decisions and conduct. The theory highlights three key features of accountability: transparency in decision-making, the obligation to justify those decisions to the public, and the possibility of sanctions in cases of failure or abuse. This model is particularly relevant in evaluating algorithmic governance tools, which, in the absence of clear lines of responsibility, can severely impact civil liberties. In Punjab's case, where predictive policing decisions may result in increased surveillance, targeting, or even arrests, the lack of redress or explanatory procedures gives rise to serious accountability concerns.

To complement this institutional focus, the study turns to Ethical AI Governance Principles, as articulated by Floridi et al. (2018). These principles offer an ethical foundation for the deployment of AI, emphasising fairness, transparency, accountability, privacy, and inclusiveness. In the context of predictive policing, these principles act as a moral compass, reminding us that technological efficiency should never override basic rights or fairness. Floridi also highlights the need for participatory governance—an approach that brings in the perspectives of those directly affected by surveillance, not just officials or experts. This is especially important in Punjab, where longstanding social and economic divides mean that the impact of AI-based policing is not felt equally across society.

The final part of the framework draws on Contextual Integrity Theory, developed by Nissenbaum (2004). Rather than treating privacy as a one-size-fits-all concept, this approach looks at how social and cultural norms shape what people see as acceptable uses of their personal information. In Punjab, where legal traditions, political history, and institutional trust differ significantly from Western democracies, it's not enough to apply foreign standards of data ethics without considering local realities. This theory thus helps evaluate whether the design and deployment of AI policing tools respect local norms while still adhering to fundamental rights and principles.

Taken together, these three frameworks offer a well-rounded way to examine the ethical use of AI in policing. They cover institutional responsibilities through Accountability Theory, value-driven standards through Ethical AI Principles, and local social norms through Contextual Integrity. This combination is especially useful for understanding how international ideas about ethical AI often clash with the everyday realities and limitations of governance in Punjab.

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Methodology

This study takes a qualitative and interpretive approach, shaped by the principles of constructivist inquiry and critical policy analysis. Given that the research is concerned with the ethical and governance-related elements of predictive policing in Punjab, a systematic literature review (SLR) was chosen as the main method for gathering and analysing data. Rather than simply summarising what has already been written, the review is used here to critically examine assumptions, highlight overlooked concerns, and bring to light how these technologies operate within a specific institutional and cultural context.

A literature-based approach made the most sense for two key reasons. First, there is still relatively little empirical research on the ethics of AI in law enforcement in Pakistan. Second, the focus of this study is not to test a hypothesis but to interpret and apply international ethical frameworks to Punjab's unique socio-political landscape. The literature review method provides a structured way of identifying and analysing scholarly and policy-based materials that help explain how predictive policing is unfolding both globally and locally.

A total of 26 sources were reviewed, including peer-reviewed journal articles, policy reports, and official documents published between 2013 and 2024. To ensure relevance and credibility, each source met three basic criteria: it had to speak directly to predictive policing, AI ethics, or digital surveillance governance; it had to focus on either global frameworks or the South Asian/Pakistani context; and it had to come from a credible author or institution—academic, governmental, or from civil society.

Sources were pulled from platforms like Google Scholar and Taylor & Francis, along with institutional websites such as those of the European Commission, UNESCO, the Digital Rights Foundation, and Pakistan's Ministry of IT and Telecom. The review also included grey literature—such as policy briefs and reports from advocacy groups—because these sources often provide valuable insights that don't always make it into academic writing. They reflect what's happening on the ground and bring in voices and experiences that are crucial for understanding how predictive policing actually unfolds in places like Punjab.

The interpretation of the literature was guided by the three central theories. Bovens' idea of accountability helped look at whether the systems in place in Punjab actually allow for transparency, explanation, and consequences when AI in policing goes wrong. Floridi's ethical principles offered a kind of moral checklist—asking whether the use of AI here is fair, transparent, respectful of privacy, and inclusive. And Nissenbaum's concept of contextual integrity made it possible to explore how these broader ethical standards play out in a place like Punjab, where notions of privacy and state responsibility are influenced by local politics, legal norms, and institutional realities.

Findings: Ethical Challenges in Predictive Policing

While the ethical pitfalls of predictive policing have been extensively documented in literature worldwide, these issues are even more severe in regions like Punjab, where institutional safeguards are weak and legal frameworks remain underdeveloped. Initiatives like the Punjab Safe Cities Authority (PSCA) and the Face Trace System, not only represent the province's application of AI-integrated policing but are also one of the most visible experiments of AI integration in law enforcement in South Asia. Yet, the governance mechanisms intended to regulate them remain incoherent and underdeveloped, despite the swift adoption of AI systems. This disconnection leaves

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predictive policing efforts in Punjab open to misuse and exploitation. The sub-sections below discuss four major ethical challenges: algorithmic bias, opacity, privacy violations, and the absence of effective oversight.

Algorithmic Bias and Reinforcement of Inequality

The risk of algorithmic bias, where artificial intelligence systems reflect and strengthen existing social prejudices, persists as one of the major ethical concerns in predictive policing. Inadequate, incomplete, and socially distorted crime statistics in Punjab further worsen this problem. Law enforcement databases often reproduce long-standing patterns of discrimination in policing, like disproportionate oversight of informal settlements or ethnic minorities, which are then encoded into AI algorithms. Such systems result in automating and hiding prejudice, rather than eradicating it, as argued by O'Neil (2016) and Eubanks (2018).

This means that in practice, predictive algorithms used by the PSCA may recognize particular neighborhoods, localities, or demographic groups as "high risk" based on misguided assumptions or previous excessive policing. These systems become instruments of discrimination under the name of technological neutrality, without sufficient measures to check data inputs and question results. As warned by Rashid (2022), the historical lack of detailed, disaggregated data and the influence of political priorities on law enforcement reporting practices make predictive policing especially prone to perpetuating inequalities.

The implication of Floridi et al.'s (2018) fairness principle is pivotal in this context. Predictive policing in Punjab risks deepening structural injustices by feeding them into algorithmic decision-making processes if sufficient efforts to detect and mitigate bias are not timely undertaken.

Transparency and the "Black Box" Problem

Another challenge closely related to algorithmic bias is that of opacity, often described as the "black box" problem. In Punjab, neither citizens nor oversight authorities have access to the reasoning behind predictive decisions made by AI systems. The Bovens' (2007) Accountability Theory, which stresses the importance of answerability and censurability in democratic institutions, describes the erosion of public accountability and trust due to this lack of explainability.

For instance, if an individual is marked by the Face Trace System as a "person of interest," there are no formal procedures in place for them to challenge, scrutinize, or even understand the decision. The PSCA or its technology vendors are not statutorily obligated to reveal the decision-making criteria used by predictive systems. This opacity not only undermines institutional legitimacy but also infringes upon the public's right to understand how consequential decisions are made (Floridi et al., 2018)

Furthermore, the public is granted no access to audits, impact evaluations, or impartial assessments of these systems. As emphasized by UNESCO (2021) and the AI Now Institute (2020), the public sector's AI urgently needs to meet higher standards of transparency and accountability due to its potential to influence or restrict individual freedoms. However, in addition to algorithms, governance opacity in Punjab also spreads to supplier relationships, procurement processes, and implementation strategies, making meaningful oversight severely difficult to achieve.

Data Governance and Privacy Violations

Data governance and privacy stand as the key concerns of the acute ethical gap in

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Punjab's predictive policing ecosystem. A comprehensive network of geospatial, biometric, and behavioral data, collected through surveillance structures installed under the Safe City Project in urban centers like Lahore, Rawalpindi, and Faisalabad, forms the basis of Predictive policing systems. Yet, Pakistan lacks a detailed data protection law, and provincial governments have not enacted their frameworks to regulate data use in policing, reports the Digital Rights Foundation (2023).

Resultantly, a legal vacuum is created in which sensitive personal data, such as mobile location records, facial recognition profiles, and social media activity, can be stored, shared, or manipulated without consent. The theory of surveillance capitalism by Zuboff (2019) becomes directly applicable here, as citizen data is increasingly gathered and commodified by public institutions in Punjab without defined limitations on scope, purpose, and retention.

The Face Trace System, developed with technical support from foreign vendors, allows instant identification and tracking of individuals based on facial biometrics (PITB, 2023). This system often targets individuals without judicial warrants, being used without informed consent. Due to the absence of rules governing data minimisation, storage limits, or third-party access, the public is left vulnerable to surveillance overreach.

The principle of privacy by Floridi et al. (2018) is clearly violated in such an environment. Additionally, Nissenbaum's (2004) Contextual Integrity Theory further highlights the ethical failure, with the predictive policing-focused data practices in Punjab conflict with local social norms of dignity, due process, and state accountability. There is growing awareness among citizens of being watched, but a lack of mechanisms to challenge this surveillance undermines the trust on which effective law enforcement depends.

Weak Institutional Accountability and Lack of Oversight

Finally, the most systemic ethical challenge to predictive policing in Punjab is the absence of independent accountability mechanisms. As per Bovens (2007), accountability entails that institutions must provide information regarding their decisions as well as give justifications for them and be subject to meaningful consequences for ethical violations. In Punjab, none of these requirements is consistently upheld.

Though the PSCA is positioned as a pioneering innovation in predictive policing, it is neither subject to parliamentary scrutiny nor overseen by an impartial ethics board. Its operating procedures remain opaque, and complaints by citizens against AI misuse are seldom investigated transparently. Even after recognizing these risks, the draft National AI Policy (MOITT, 2021) offers no enforcement mechanisms and instead relies on non-binding principles.

Moreover, barriers are faced by civil society organisations, such as the Digital Rights Foundation, in accessing data or pursuing public interest litigation due to bureaucratic resistance and poor legal standing. Consequently, predictive policing technologies function without vertical (political), horizontal (inter-agency), or public (civic) accountability, creating a governance vacuum.

Collectively, these ethical challenges are not hypothetical or abstract; they are deeply embedded in the province's institutional inefficiencies, regulatory gaps, and past patterns of policing inequality. AI-driven law enforcement threatens to exacerbate rather than address these issues if significant reforms are not implemented. The absence of algorithmic transparency, effective oversight, and data protection makes Punjab's predictive policing initiative ethically unreliable and democratically weak. The following section turns from diagnosis to prescription, offering policy recommendations to realign

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predictive policing in Punjab with global ethical standards and the realities of local governance.

Discussion: Policy Implications and Recommendations

Although the integration of AI in law enforcement is technologically progressive, but is ethically justifiable only if integrated within a robust governance framework. As predictive policing in Punjab is expanding ahead of democratic oversight and regulatory capacity, the ethical deficits acknowledged earlier cannot be resolved solely through technical solutions. Addressing these issues requires coordinated reform efforts across legislative, institutional, and civic domains to manage the deployment of AI in policing. Learning from international best practices, such as the EU AI Act and GDPR, as well as insights from domestic realities, this section outlines five key reform areas.

Enactment of Provincial Legislation on AI and Data Protection

The utmost priority to effectively manage AI-driven predictive policing is the formulation, passage, and execution of a provincial law specifically regulating the use of AI in public-sector applications in Punjab. The law enforcement agencies in Punjab are left operating in a legal grey zone due to the current dependence on ambiguous guidelines and federal draft policies (e.g., the MOITT AI Policy), where accountability is neither clarified nor enforceable.

Such legislation must:

Clearly define high-risk AI applications and set explicit limitations on their use.

Mandate independent audits for any algorithmic tool used in law enforcement.

Set data protection standards consistent with GDPR principles, including informed consent, data minimization, specific use restrictions, and the right to contest AI-driven decisions.

Necessitate Human Rights Impact Assessment (HRIA) before all AI deployments in policing.

To ensure alignment with Punjab's administrative structure and autonomy in matters of policing under Pakistan's federal system, the law must be provincially enacted.

Establishment of an Independent AI Ethics and Oversight Board

AI governance is complicated and cannot be entirely entrusted to the agencies operationalizing it. To review and regulate the deployment of predictive technological systems in law enforcement, a dedicated, independent, impartial AI Ethics and Oversight Board should be established at the provincial level.

This board should:

Be inclusive of representatives from civil society, legal experts, academia, technologists, and members of marginalized or vulnerable communities.

Conduct bias assessments and algorithmic audits on predictive policing technologies.

Be empowered to stop or suspend AI operations that fail to meet ethical or legal standards.

Ensure transparency in its workings, publish ongoing regular impact assessments and recommendations for the citizens.

Institutionalising horizontal accountability through such authorities allows independent scrutiny of the decisions made by the PSCA and its private sector collaborators.

Institutionalise Public Participation and Redress Mechanisms

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In predictive policing setups, citizens often become subjects of algorithmic inspection without their informed consent or knowledge. To ensure democratized AI governance, Punjab should adopt formal mechanisms for transparency, public participation, and redress.

These mechanisms should include:

Citizen review panels to assess major AI applications.

Public consultations before introducing any new oversight or predictive technology.

An effective legal procedure for individuals to appeal or challenge algorithmic decisions, such as being identified as "high-risk."

Following Nissenbaum's Contextual Integrity Theory, these mechanisms ensure that the use of AI corresponds to the local norms of justice, privacy, and public expectation, rather than just importing out-of-context foreign models.

Mandated Training and Capacity Building in AI Ethics

Efficient AI governance is dependent on both laws as well as people. Interdisciplinary training in AI ethics, accountability, and human rights should be conducted for law enforcement officials, bureaucrats, and technical experts involved in predictive policing strategies.

The government of Punjab should:

Develop a provincial training curriculum focused on ethical AI, adapted to local governance contexts.

Require completion of training for any official involved in AI procurement, design, or deployment.

Collaborate with universities and civil society organisations to provide certification programmes in algorithmic accountability.

This effort would establish internal capacity to handle, monitor, and enhance predictive policing systems and instill an ethical culture within institutions.

International Benchmarking with Local Adaptation

A governance model locally adapted to Punjab must be developed, where international frameworks can only provide useful benchmarks and guidelines. The EU AI Act's hierarchical risk approach is especially applicable, which designates predictive policing as high-risk, requiring increased protections. However, mere replication is impractical and inefficient.

Punjab should:

Utilise the EU AI Act as a reference guide, adapting its principles to the realities and complexities of Pakistan's legislative system, bureaucratic structure, and policing environments.

Adapt surveillance technologies, ensuring alignment with democratic norms and refraining from adopting, particularly those developed in authoritarian contexts (e.g., facial recognition models from China).

Engage other South Asian countries in regional dialogue, those that are experimenting with AI technologies in governance, to learn from and develop shared principles and rules for ensuring ethical use of technology.

By positioning itself as a regional leader in AI ethics and effective utilisation, Punjab can not only improve its own systems but also contribute to setting standards for other developing regions.

The ethical risks of predictive policing in Punjab are not inevitable. They result

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from governance decisions, bureaucratic resistance, and public policy failure. This section has discussed a context-specific reform agenda to bridge the gap between innovation and accountability. By enacting AI-focused legislation, establishing independent regulatory oversight, encouraging public participation, strengthening institutional capacity, and adapting global standards, Punjab can transform its predictive policing model into one that balances operational efficiency with ethical integrity and democratic accountability.

Conclusion

The application of Artificial Intelligence in predictive policing is a powerful combination of technology and public administration. The stakes are high in Punjab, where AI is increasingly being deployed into policing infrastructure through the Safe Cities Project and other initiatives. As this research study has shown, while AI-driven predictive technologies promise enhanced security, surveillance, and operational efficiency, they also threaten to perpetuate deep structural inequalities, compromise public trust, erode privacy, and undermine institutional accountability if integrated without ethical considerations and legal safeguards.

Grounded in a systematic review of 26 academic and policy sources and framed by Accountability Theory, Ethical AI Governance Principles, and Contextual Integrity Theory, this research has uncovered the ethical and governance challenges associated with AI-driven policing in Punjab. The analysis revealed that algorithmic bias is not merely a theoretical issue but an experienced reality determined by historically unequal data and unregulated technologies. The lack of transparency in algorithmic decision-making and the absence of public accountability mechanisms have created a governance void, resulting in an alarmingly high risk of privacy breaches, wrongful targeting, and power abuse.

However, such challenges are not impossible to overcome. This article proposes a context-specific policy reform agenda to establish a framework for responsible AI governance in Punjab. Five priorities form the core of this vision: implementing provincial AI and data protection law; creating an independent AI oversight body; institutionalizing public participation and redress mechanisms; developing state capacity on AI ethics; and moulding international benchmarks to the specificity of the region's governance structures.

These reforms are necessary, not only for augmenting policing effectiveness but also for upholding democratic values in the age of algorithms. Ethical AI is not a luxury for advanced democracies; it is a requirement for any society that wants to progress and incorporate emerging technologies into its public institutions without compromising rights, equity, or trust.

Future studies will need to explore how predictive policing in Punjab impacts specific populations, like religious minorities, urban poor, or gendered groups, through empirical research. In addition, multidisciplinary cooperation among experts, technologists, policy specialists, and human rights advocates will be critical to transforming ethical theory into effective governance practice.

Punjab stands at a crossroads: it can implement either a surveillance and exclusion-led model of AI policing or lead a model based on fairness, transparency, and human dignity. This article offers a roadmap for a more equitable and democratic alternative.

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