



ORIGINAL RESEARCH PAPER

THE INDIAN DIGITAL CITIZEN FRAMEWORK:
A HYBRID GOVERNANCE MODEL FOR THE
JURISPRUDENCE OF INCOMPLETE
KNOWLEDGE

Law

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Dr. Bhupender Kumar Jodhta*

Principal, Awasthi College of Law, Himachal Pradesh University, Shimla, HP*Corresponding Author

ABSTRACT

The integration of artificial intelligence into India's digital public infrastructure has outpaced the development of legal frameworks for algorithmic accountability. This paper argues that jurisprudence must shift from demanding full explainability to demanding meaningful contestability and auditability. Drawing on Justice K.S. Puttaswamy v. Union of India, which recognised privacy as intrinsic to dignity, this paper proposes a three-layer hybrid governance model. The constitutional layer extends Puttaswamy to recognise algorithmic due process under Article 21. The statutory layer recommends amending the Information Technology Act, 2000 to create offences for AI-facilitated harms and mandate algorithmic impact assessments. The regulatory layer proposes empowering the Data Protection Board to certify independent auditors and establishing regulatory sandboxes. The paper concludes that the future of law will be coded into algorithms, and the central question is whether that code will be written with constitutional discipline.

INTRODUCTION: THE EPISTEMIC CHALLENGE

Law has always operated under conditions of imperfect knowledge. Judges decide cases on incomplete evidence. Legislators predict future consequences without certainty. This condition is not new. What is new is the emergence of incomplete knowability.

Artificial intelligence systems, particularly deep neural networks, present a structural challenge to traditional legal epistemology. Even developers cannot fully explain their internal computations. This is not a temporary limitation but a structural feature of models that optimise for predictive accuracy at the expense of human interpretability. The legal implications are profound. If the state deploys AI systems to allocate welfare benefits, assess creditworthiness, or authenticate identity, and if those systems operate through processes that are mathematically impossible to fully explain, then traditional requirements of reasoned decision-making and judicial review become difficult to apply.

This challenge is acute in India, where over one billion citizens are enrolled in digital infrastructures relying on algorithmic decision-making. The India Stack comprises Aadhaar for digital identity, Unified Payments Interface for real-time payments, DigiLocker for document storage, and CoWIN for vaccination certification. Yet this digital transformation has proceeded without corresponding legal frameworks. The right to privacy, declared in Justice K.S. Puttaswamy v. Union of India, remains abstract unless translated into enforceable safeguards against algorithmic harm.

This paper argues that jurisprudence must shift from demanding full explainability to demanding meaningful contestability and auditability. The right question is not "Why did the AI produce this output?" but rather: Can the output be meaningfully challenged? Can it be audited? Can it be overridden by a human decision-maker?

CONSTITUTIONAL FOUNDATION: FROM PRIVACY TO ALGORITHMIC DUE PROCESS

A. The Puttaswamy Doctrine and Its Unfinished Agenda

The nine-judge bench in Justice K.S. Puttaswamy v. Union of India (2017) constitutionalised informational privacy as intrinsic to Article 21. Privacy is a fundamental right flowing from dignity and autonomy. The Court established a three-part test: state intrusions must be lawful, necessary, and proportionate.

However, Puttaswamy was decided in 2017, before the current wave of generative AI. It addressed data collection but did not anticipate algorithmic decision-making challenges. The

jurisprudence of algorithmic due process remains unwritten. In the Aadhaar litigation, it was argued that the Act prioritised a digital person over a real person and that constitutional entitlements had become contingent upon algorithms beyond state control. Algorithmic mistakes could not be brought to court. These arguments articulated a general problem: algorithmic systems produce arbitrary outcomes affecting fundamental rights, yet existing legal mechanisms are ill-suited to address such harms.

Extending Puttaswamy to Algorithmic Decisions

This paper proposes extending Puttaswamy to recognise algorithmic due process under Article 21. Significant automated decisions must satisfy three requirements: notice that an algorithmic decision is being made; hearing through a meaningful opportunity to contest, including access to a human decision-maker with override authority; and appeal to an independent forum with technical capacity to audit.

The demand for transparency must be calibrated to what is technically feasible. Requiring complete causal explanation of every neural network output may be impossible. Requiring human review and override when algorithms produce unjust results is both feasible and constitutionally necessary.

The constitutional foundation is already present in Puttaswamy. The Court's emphasis on dignity implies that individuals cannot be reduced to data points processed by opaque algorithms. A person whose welfare benefits are denied because of a biometric mismatch has suffered an injury to dignity analogous to privacy injuries. If the Constitution protects against arbitrary data collection, it must also protect against arbitrary data processing.

THE STATUTORY LAYER: AMENDING THE INFORMATION TECHNOLOGY ACT

A. Criminal Liability for AI-Facilitated Harms

The statutory framework rests on the Information Technology Act, 2000 and the Intermediary Guidelines Rules, 2021, amended in 2026. The amendments introduced "Synthetically Generated Information" and imposed obligations on intermediaries, including user declarations and technical verification measures.

While these amendments are welcome, they address dissemination rather than creation of harmful content. This paper proposes specific offences for: malicious synthetic media generation created with intent to deceive or harm; algorithmic manipulation of critical infrastructure with intent to cause systemic harm; and AI-facilitated identity fraud including voice cloning and deepfakes. These offences should require appropriate scienter to protect legitimate expression and research.

Mandatory Algorithmic Impact Assessments

The statutory layer should mandate algorithmic impact assessments for high-risk government AI systems. Drawing on Canadian and EU frameworks, such assessments would require pre-deployment analysis addressing: purpose and scope; data inputs and potential biases; potential impacts on affected individuals and communities; mitigation measures; transparency mechanisms; and human oversight.

The requirement should apply to AI systems affecting welfare eligibility, criminal justice, immigration, employment, education, credit, or any right under Part III of the Constitution. Assessments should be public documents subject only to legitimate security or privacy redactions. This would ensure democratic oversight of algorithmic governance.

THE REGULATORY LAYER: INSTITUTIONAL INNOVATIONS

A. The Data Protection Board as AI Auditor

The Digital Personal Data Protection Act, 2023 establishes the Data Protection Board of India. This paper proposes empowering the Board to certify independent AI auditors. Auditors should conduct compliance audits, review impact assessments, test for bias and discrimination, report findings to the Board, and issue public reports subject to confidentiality protections. The Board should maintain a public register and have power to suspend or revoke certification.

The independence requirement is crucial: auditors must have no conflict of interest. This framework would create a professional ecosystem of accountability professionals with technical expertise to evaluate complex AI systems.

Regulatory Sandboxes for Responsible AI Innovation

The Ministry of Electronics and Information Technology has signalled commitment to responsible AI governance. This paper proposes formal regulatory sandboxes modelled on Reserve Bank of India and Securities and Exchange Board of India precedents. Sandboxes should include eligibility criteria, application processes, reduced compliance burdens, binding agreements on liability and safeguards, monitoring requirements, and structured paths to deployment.

Participating firms must disclose limitations and risks, obtain informed consent, maintain audit logs, implement human override mechanisms, and report incidents. Sandboxes would foster responsible innovation and generate empirical evidence for evidence-based regulation.

A HYBRID MODEL: SYNTHESIS AND COMPARATIVE ANALYSIS

The framework draws selectively on three approaches while remaining rooted in Indian constitutional values.

The European Union's rights-centric approach prioritises fundamental rights through impact assessments and transparency obligations. India can learn from this normative anchor while adapting to its developmental context and administrative capacity.

The United States offers regulatory flexibility and innovation-friendliness through sectoral regulation and voluntary standards. India should adopt its willingness to experiment with sandboxes while rejecting its reluctance to impose binding obligations on high-risk AI.

China's auditability requirements demonstrate that meaningful technical transparency is possible without full explainability. India should adopt these technical requirements while rejecting political suppression of expression.

The proposed hybrid model is principled pragmatism: constitutionally grounded, statutorily specific, and institutionally adaptive. It recognises that algorithmic governance is not a technical problem but a legal problem requiring institutional innovation.

THE JURISPRUDENCE OF INCOMPLETE KNOWLEDGE: TOWARD CONTESTABILITY

Traditional administrative law requires reasoned, reviewable decisions. This presupposes the decision-maker knows why the decision was made. With AI systems, this presupposition fails. Insisting on full explainability would effectively prohibit AI deployment in high-stakes contexts.

The alternative is contestability. The right question is not "Why did the AI produce this output?" but: Can the output be meaningfully challenged? Can it be audited? Can it be overridden by a human?

Contestability requires three capabilities: logging of inputs, outputs, and intermediate states for ex post audit; human oversight with authority to review and override; and audit access for independent inspection of training data, model architecture, and operational logs.

This framework reinterprets reasoned decision-making for the algorithmic age. A decision is reasoned if it can be effectively contested and reviewed, even if full explainability is impossible. This is a lower bar than full explainability, but a higher bar than opaque, unaccountable code.

CONCLUSION: CODING THE CONSTITUTION

The future of law will be coded into algorithms. The question is whether we write that code with constitutional discipline.

For India, the stakes are existential. Over one billion citizens are enrolled in digital infrastructures mediated by AI systems. The right to privacy declared in *Puttaswamy* will remain abstract unless translated into enforceable safeguards. The transition from statutes to algorithms requires new legal categories and institutional practices.

The alternative is erosion of rule-of-law values under opaque, unaccountable code. The jurisprudence of incomplete knowledge extends legal principle to new epistemic conditions. The task is to ensure that as the state becomes digital, it does not cease to be constitutional.

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