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Supporting Judicial Activism in India through Large Language Models

Ritu*

Associate Professor, Department of Political Science, Aggarwal College, Ballabgarh, Faridabad, Haryana, India.

*Corresponding Author: ritu_210@yahoo.in

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ABSTRACT

This paper explores how Large Language Models (LLMs) may support judicial activism in India by improving access to legal knowledge, facilitating rights-based research, and identifying patterns in case law across jurisdictions and languages. In a judicial system shaped by Public Interest Litigation (PIL) and facing challenges of scale, linguistic diversity, and doctrinal complexity, LLMs offer practical capabilities in semantic analysis, summarisation, and multilingual processing. Drawing on examples from the United Kingdom, the European Union, Australia, and New Zealand, as well as domestic initiatives like SUPACE and SUVAS, the paper argues for the careful integration of LLMs as assistive infrastructure that enhances—rather than replaces—human legal reasoning. Key concerns around accuracy, bias, transparency, and accountability are addressed through a proposed human-in-the-loop framework, multilingual model development, and institutional safeguards. The paper concludes that, if governed responsibly, LLMs can strengthen the judiciary's capacity for timely, inclusive, and constitutionally grounded interventions.

***Keywords**: Large Language Model, SUPACE, SUVAS, Artificial Intelligence, Judicial Activism.*

Introduction

Large Language Models (LLMs) [1]have, in recent years, emerged as advanced forms of artificial intelligence capable of generating and interpreting human language with a high degree of sophistication. Trained on expansive corpora, including legal, technical, and general linguistic material, models such as those built on the GPT architecture are increasingly capable of parsing complex queries, synthesising large volumes of text, and engaging in context-sensitive reasoning[1,2]. Their applicability has generated significant interest across domains that rely heavily on textual interpretation — notably the legal field, where both volume and nuance are central. In the Indian context, the legal system is marked by a vast and ever-expanding body of statutory law and case law, often spanning several decades, jurisdictions, and languages. As of 2025, Indian courts collectively face a backlog exceeding 52 million cases[3][4]. Within this environment, the ability to retrieve, organise, and analyse legal materials efficiently has become both a logistical and institutional imperative — one to which LLMs may offer a timely and technically appropriate response.

Judicial activism in India denotes the role adopted by the higher judiciary in interpreting constitutional provisions expansively and intervening, at times, in areas traditionally seen as the domain of the legislature or executive[5]. Mechanisms such as Public Interest Litigation (PIL) have enabled the courts to address a wide range of structural and rights-based concerns, including environmental governance, access to welfare, and administrative accountability[6,7]. This judicial posture demands sustained engagement with legal texts and an interpretive sensitivity to evolving constitutional values. However, the practical conditions under which this work is conducted often constrain its potential. Legal research remains a resource-intensive task, requiring the navigation of extensive case law, statutory frameworks, and academic commentary within the limited time available in judicial proceedings. Language presents a further challenge: India's legal materials exist in multiple languages, and significant portions of high court jurisprudence or governmental documentation may be inaccessible due to linguistic

segmentation[8,9]. Moreover, the sheer volume of content — from foundational documents such as the Constituent Assembly Debates to contemporary judgments — renders it increasingly difficult to ensure that relevant authorities or arguments are consistently identified and incorporated[10].

The potential integration of large language models (LLMs) into the Indian legal context offers a technically compelling and institutionally relevant prospect. Unlike conventional keyword-based search systems, LLMs are designed to interpret semantic relationships and contextual nuance, thereby identifying relevant material that may elude more rigid search parameters. Their capacity to summarise extended legal texts and translate across languages offers practical value in bridging the divide between complex legal materials and the individuals — whether judges, lawyers, or litigants — required to engage with them. When trained or fine-tuned on domain-specific legal corpora, these models can acquire a more granular understanding of juridical language, doctrinal logic, and statutory framing[11-13].

Deployed responsibly, such tools could assist judges in drafting more informed and contextually grounded judgments, support lawyers in developing rights-based arguments with greater precision, and expand the capacity of citizens to comprehend legal processes and protections. The emergence of LLMs coincides with a growing institutional recognition of the need for technological augmentation in adjudicative work. Notably, the Supreme Court of India launched the SUPACE [15]system in 2021 — an AI-assisted research platform aimed at improving judicial efficiency by presenting relevant facts and applicable legal provisions. In parallel, the Court's SUVAS[16] initiative offers machine translation of judgments into regional languages, marking a step towards wider accessibility. These developments reflect a broader institutional acknowledgment that more sophisticated information tools can enhance the functioning of the judiciary. LLMs, as a further step in this trajectory, may offer the ability not only to retrieve but also to synthesise and contextualise legal material in a manner aligned with the deliberative demands of judicial reasoning — a development with significant implications for the evolving practice of judicial activism in India[14-16].

Judicial Use Cases and Examples

LLMs offer several concrete avenues for enhancing the institutional practice of judicial activism in India. One of the most immediate contributions lies in improving access to legal knowledge. By enabling users to engage with legal texts through plain-language queries, LLMs can assist in retrieving relevant statutes, precedents, and commentary with a speed and precision far beyond conventional search tools. This is particularly significant in a system where legal materials are often fragmented across jurisdictions, languages, and time periods. A judge presiding over a novel constitutional matter, for example, could rapidly locate relevant case law not only from across Indian states but also from foreign jurisdictions with analogous legal questions. The same capability could enable public interest lawyers to frame petitions on more robust doctrinal foundations, incorporating older or less-cited rulings that would otherwise remain obscured. Through translation and simplification, LLMs further reduce the barriers posed by legal technicality, thereby enhancing the participation of a wider range of actors — especially in the domain of public interest litigation, which remains a core vehicle for judicial intervention in India.

A further domain of promise lies in the support LLMs can provide for rights-based research. Activist jurisprudence in India has long been distinguished by its emphasis on constitutional rights and their dynamic interpretation. LLMs, when applied to this context, can compile relevant constitutional provisions, precedent, and international legal norms with exceptional speed and breadth. In matters involving emerging rights — such as digital privacy, reproductive autonomy, or environmental justice — LLMs could offer a consolidated view that spans domestic judgments, global treaty obligations, and comparative legal developments. A court examining the contours of privacy in the digital domain, for instance, could be supported by an LLM that not only retrieves Indian precedent (such as the Puttaswamy decision[17] but situates it within broader developments such as the General Data Protection Regulation(GDPR) in Europe[18] or evolving doctrine from common law jurisdictions. The inclusion of scholarly critique, where available, could further inform a more deliberative and well-rounded adjudication. In this sense, LLMs do not replace legal reasoning but furnish it with a richer evidentiary and conceptual base — particularly valuable when courts are called upon to address claims from vulnerable or underrepresented groups.

In addition to retrieval and research, LLMs may contribute through the identification of patterns in judicial decision-making. When combined with broader machine learning methods, these models can analyse large volumes of historical judgments to highlight trends, gaps, and inconsistencies in how particular rights or issues have been treated. In the field of environmental litigation, for example, such

tools could reveal whether judicial responses to government inaction have varied over time or across regions, potentially identifying underlying principles or disparities that merit further scrutiny. They may also assist in recognising under-litigated rights areas, thus guiding both judicial attention and civil society action. Moreover, while predictive applications must be approached with caution, developments in European legal AI research suggest that structured analysis of language and fact patterns can align closely with actual judicial outcomes[19]. Such capabilities could assist courts in triaging cases, identifying those with urgent rights implications, and allocating limited judicial resources more effectively — a practical consideration in light of the high case pendency that characterises the system.

Together, these capacities suggest that LLMs may serve not as a technological substitute for legal judgment, but as a supplementary infrastructure through which the judiciary's activist commitments might be rendered more precise, inclusive, and responsive. This possibility, while promising, becomes especially significant when considering developments in other jurisdictions — including the United Kingdom, the European Union, and the legal systems of Australia and New Zealand — where similar debates about AI's role in adjudication are now unfolding.

In the United Kingdom, the judiciary has recently permitted limited use of generative AI by judges for administrative functions. Guidance issued in England and Wales in late 2023 [20]allows tools such as ChatGPT to be used for summarising lengthy documents, drafting standard correspondence, and enhancing procedural efficiency. Judges have noted the time-saving benefits of using such systems to distil complex materials; however, their use in core legal reasoning or in drafting judgments remains explicitly prohibited. This cautious delineation reflects a broader institutional sensitivity to the risks of over-reliance on automated tools. Indeed, training materials have since been updated to help judges identify AI-generated submissions, following incidents where synthetic content entered the courtroom. The UK's approach underscores how AI can be used to reduce routine burdens, allowing judicial time and attention to remain focused on the substantive demands of adjudication — a principle that aligns well with the aspirations of activist courts seeking to prioritise rights-based reasoning[20].

Across Europe, the balance between innovation and caution is also evident, shaped by both regulatory and practical considerations. The Council of Europe's Commission for the Efficiency of Justice (CEPEJ) adopted an ethical charter on the use of AI in judicial systems as early as 2018[21], outlining principles of transparency, accountability, and non-discrimination. European institutions have subsequently implemented AI tools in various supportive roles. The Court of Justice of the European Union, for example, uses automated translation systems to facilitate cross-border judicial processes, addressing the challenge of multilingual legal material. Experimental applications have gone further: researchers employing AI systems trained on legal data have achieved notable success in predicting outcomes of European Court of Human Rights cases. These models were able to identify patterns in case fact structures and legal framing that closely aligned with actual decisions, offering decision-support potential without displacing judicial discretion. Such tools, if appropriately adapted, could assist courts in rapidly locating relevant rights-based precedents or highlighting areas of jurisprudential inconsistency — functions that directly support the logic and ambition of judicial activism[21,22].

In Australia and New Zealand, the legal profession has embraced AI tools primarily in the domain of legal research[23]. Major platforms such as Lexis+ [24]have been introduced with the specific aim of reducing the time required to navigate expansive case law databases. Lawyers in both jurisdictions report significant time savings and improved research quality, noting that such systems can uncover relevant material that might otherwise remain obscured. While these tools are presently geared toward legal practitioners, they foreshadow their potential utility for judges engaged in complex rights-based adjudication. On the judicial side, guidance in New Zealand has endorsed the limited use of generative AI for non-substantive functions, with an emphasis on maintaining fairness and procedural integrity. Australian courts, meanwhile, have explored AI applications in areas such as transcription and the structuring of evidentiary materials, thereby reducing clerical burdens and streamlining case preparation. These developments reflect an incremental but deliberate movement toward AI integration in support of, rather than in substitution for, judicial work[23,24].

In the Indian context, early engagements with generative AI suggest a similar curiosity tempered by institutional caution. Beyond administrative innovations such as SUPACE [15]and SUVAS[16], individual judges have begun to experiment with tools like ChatGPT within the courtroom. In Jaswinder Singh v. State of Punjab, for instance, the judge used ChatGPT to query legal principles relevant to a bail matter, treating its responses as supplementary input. A similar approach was reported in Md. Zakir Hussain v.

State of Manipur. However, not all uses have been endorsed: in Christian Louboutin v. The Shoe Boutique, the Delhi High Court declined to admit outputs from ChatGPT, citing concerns about factual accuracy and verification. These instances reflect both the growing relevance of such tools and the judicial system's prudent awareness of their current limitations. Together with institutional efforts to build AI capacity through official platforms, they point to a legal ecosystem that is beginning to engage systematically with the question of how LLMs might support adjudication — particularly in rights-based and public interest litigation[25].

Taken together, these international examples offer a clear inference: that AI tools can be deployed within judicial settings to enhance the conditions under which substantive reasoning occurs, without supplanting it. Whether by improving access to legal knowledge, deepening rights-oriented research, or revealing patterns in case law, LLMs may provide critical infrastructure to support a more responsive, coherent, and equitable exercise of judicial power.

Discussion and Conclusion

The integration of large language models into India's judicial processes brings with it a compelling promise, particularly in strengthening the intellectual and operational capacities that underpin judicial activism. Yet, the responsible adoption of these tools requires careful attention to a range of ethical, technical, and institutional considerations. Among the foremost is the question of accuracy and verifiability. Unlike human judges, LLMs operate on probabilistic reasoning derived from patterns in training data, which means they are susceptible to generating plausible-sounding but incorrect outputs — a known limitation referred to as "hallucination." In legal contexts, this could manifest as fabricated case citations or misquoted precedents, errors that are unacceptable in adjudicative work. To mitigate this, any AI system adopted within the judiciary must rely on verified legal databases, cite its sources transparently, and be subject to mandatory human verification. A structured "human-in-the-loop" model — where every AI-generated summary or suggestion is reviewed by a judicial officer — ensures that accountability remains squarely with the human actor. This principle, already endorsed in jurisdictions such as Singapore, offers a practical safeguard for preserving the authority and integrity of judicial decision-making[27].

Language and representational bias present another set of challenges. If LLMs are trained primarily on Supreme Court judgments or English-language sources, their performance on queries relating to regional contexts or culturally specific disputes may be limited. India's judiciary operates across multiple languages and socio-legal environments; an AI that cannot interpret legal questions posed not in English, such as in Hindi, Tamil, or any other official language, or that lacks sensitivity to customary practices, risks narrowing rather than widening access. Moreover, legal corpora reflect historical biases — whether on gender, caste, or class — that may be unwittingly reproduced in AI outputs. To counter this, training datasets must be carefully curated to include progressive jurisprudence, guidelines on gender and social justice, and materials drawn from rights commissions and grassroots legal sources. Technical bias mitigation methods, such as fine-tuning and interpretability features, should be implemented alongside multilingual capacity-building. National efforts to develop a sovereign Indian LLM explicitly attuned to local languages and constitutional values are a step in the right direction[28,29].

Transparency in reasoning remains a further concern. LLMs, by their nature, do not explain their outputs in the manner expected of legal actors. In adjudication, reasoning is not a procedural formality but a constitutional obligation. Any AI system employed in judicial contexts must therefore be capable of disclosing the basis of its suggestions in terms that can be understood and interrogated by human users. This includes referencing the specific legal texts or factual patterns that prompted a particular recommendation. Research into explainable AI in the legal domain is ongoing, and some projects, such as INLegalLlama[26], are already exploring how to align AI-generated outputs with human-understandable rationales. Additionally, the introduction of auditable logs of AI use — recording the nature and content of each interaction — would allow for post-hoc review, further reinforcing institutional oversight.

Accountability, ultimately, must remain with the human operator. Judges and lawyers must treat LLMs as assistive instruments rather than authoritative voices. As former Chief Justice S.A. Bobde noted at the launch of SUPACE [15], AI should aid in processing information but must not shape the final decision. Codifying this principle — for instance, through judicial guidance that permits citation only of the underlying source material and not the AI's summary — would ensure that legal authority is not inadvertently transferred to the machine. Institutions may also consider advisory models in limited contexts, where AI-generated legal analyses are submitted as non-binding amicus briefs to assist the

bench in complex or technical matters. Such an approach acknowledges the usefulness of the tool without compromising judicial discretion.

To embed these practices institutionally, a multilayered oversight mechanism may be warranted. Regular review by an ethics and technology committee — comprising members of the judiciary, legal scholars, technologists, and civil society observers — could assess AI performance, address complaints, and update operational protocols. Drawing from the Council of Europe's guidelines on AI in justice systems, India might adopt a formal set of principles that enshrine transparency, impartiality, human control, and reversibility as non-negotiable standards for AI use in courts[21,22].

In conclusion, the incorporation of large language models into the Indian judiciary represents a meaningful opportunity to strengthen the tools of constitutional adjudication, particularly in service of the courts' activist tradition. By enabling broader access to legal knowledge, supporting deeper rights-based analysis, and assisting in the identification of systemic patterns, LLMs may become valuable allies in the pursuit of justice. Their adoption, however, must be carefully governed. As with any powerful tool, their value lies in the purpose to which they are directed and the safeguards placed around their use. So long as human judgment remains at the centre — informed by, but not subordinated to, AI — these technologies can help the judiciary respond to increasingly complex social and legal challenges with greater clarity, consistency, and depth. In doing so, they may help realise, rather than dilute, the constitutional promise of justice.

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