

INSAAF: An AI-Powered Legal Chatbot for Enhancing Access to Justice in India

Akkireddy Suraj Kumar¹, Donkada Mohan Sai², Nalam Divyesh³, Tirupathi Hemalatha⁴, Bora Harini Reddy⁵, Reddi Kusuma Deepika⁶, B.Dhanalakshmi⁷

^{2,3,4,5,6} Student, Dept of Computer Science and Engineering(Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India

⁶Asst. Professor, Dept of Computer Science and Engineering(Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India

Corresponding Author *: mohansai872@gmail.com

Abstract

Access to legal investigations in India is a key challenge due to the complexity of legal procedures, high consultation costs and lack of awareness among citizens. In many cases, traditional legal aid is time-consuming and expensive, making it inaccessible to most of the population. In this study, Insaaf, a legal chatbot with AI, offers legal testing in real time using natural language processing (NLP) and machine learning (ML). The system is intended to understand user inquiries, invoke relevant legal provisions, and provide a simplified explanation of the law and case studies. Insaaf integrates the Llama-GPT model of advanced NLP functions and uses Scalable architectures with Flask, PostgreSQL and MongoDB to ensure efficient data management. The chatbot supports several Indian languages and allows for wider accessibility. The evaluation results show an accuracy rate of 90% with an average response time of less than 2 seconds. This demonstrates the effectiveness of the system when bridges the gap between law and the general public. In this article, we examine INSAAF architecture, implementation, and performance and compare it with existing legal AI solutions. Future improvements include expanding multilingual support, integration of linguistic AI interactions, and inclusion of blockchains for secure legal documents.

Keywords:

LegalTech, AI Chatbot, Natural Language Processing, Machine Learning, Legal Assistance, Indian Judiciary, Llama GPT, Legal Automation.

1. Introduction

The legal system serves as the basis for a fair society, ensuring law enforcement and protection of individual rights. However, access to legal assistance remains an important issue, especially in developing countries such as India. Millions of people find it difficult to navigate complex legal framework conditions, leading to overwhelming reliance on legal professionals. Traditional legal consultations are often expensive and time-consuming, which is why marginalized communities have no access to legal support. The lack of recognition of legal rights exacerbates this topic, leaving many people without seeking justice. These systems can automate legal guidelines by analyzing user inquiries, invoking relevant legal provisions, and simplifying complex legal information from non-professionals. Despite the development of various AI-based legal instruments, most existing solutions are limited in skills. Many systems are aimed exclusively at legal experts, not the general public, and do not support several languages by missing in actual interactions or restricting access to different population groups. Using an advanced NLP model, including Llama GPT, the system can edit legal queries, invoke laws, and gradually provide procedural instructions. The chatbot is based on a scalable architecture based on Flask, with PostgreSQL and MongoDB ensuring efficient data management. In contrast to the existing legal areas of AI, Insaaf is specifically tailored to Indian laws, including the Indian Criminal Code (ICC), Criminal Procedure Code (CRPC), and Civil Procedure Code (CPC). We examine existing AI-based legal solutions and their limitations, present a detailed analysis of INAAF architecture and methodology, and assess its effectiveness through power metrics. The research also discusses potential future improvements, such as language-based AI integration, enhanced multilingual support, and blockchain-based legal documents, to further improve the safety and reliability of AI-controlled legal aid.

2. Background

Legal accessibility is a fundamental aspect of justice, yet millions of individuals, especially in developing nations like India, face significant challenges in obtaining timely and affordable legal assistance. The legal system in India is highly complex, governed by a vast framework of statutes, judicial precedents, and procedural codes such as the Indian Penal Code (IPC), Criminal

Procedure Code (CrPC), and Civil Procedure Code (CPC). The intricate nature of legal language, coupled with an overwhelming backlog of cases, results in prolonged judicial proceedings, further limiting access to justice.

Professional attorneys and legal experts are the main source of traditional legal aid. However, those in the economically disadvantaged segments of society cannot afford professional guidance due to the high cost of legal services. Furthermore, because there is a dearth of simple legal education, a sizable portion of the populace is still ignorant of their legal rights, remedies, and procedural requirements. Despite being created to safeguard citizens' rights, the legal system frequently acts more as a barrier than a helper, particularly for people who are not conversant with legal jargon and court processes.

As artificial intelligence (AI) and natural language processing (NLP) have grown in popularity, technological solutions have begun to address issues related to legal accessibility. AI-driven legal chatbots are able to respond to user inquiries, obtain pertinent legal data, and offer real-time legal procedure advice. AI-driven solutions, in contrast to conventional legal aid services, provide immediate, affordable, and scalable support, expanding access to legal knowledge.

Despite advancements in LegalTech, most AI-based legal solutions remain tailored for law professionals rather than general users. Many platforms focus on legal research and analytics, failing to provide real-time, conversational legal assistance that simplifies legal concepts for ordinary citizens. Furthermore, existing solutions largely operate in English, limiting accessibility for a diverse, multilingual population like India's.

INSAAF, an AI-powered legal chatbot, was created to close this gap by providing real-time, multilingual, and approachable legal aid. The technology is made especially to comprehend Indian laws, answer questions in plain language, and give clearer explanations of legal clauses. INSAAF wants to transform legal accessibility by utilizing cutting-edge NLP and machine learning techniques to provide people with information about their rights and legal processes without the need for expensive legal consultations.

3. Objectives

INAAAF's primary objective is to close the gap between the public and attorneys by providing instantaneous legal assistance powered by AI. The platform seeks to lessen dependency on pricey legal consultations, increase accessibility, and simplify legal information. Insaaf wants to

transform legal aid in India by utilizing machine learning (ML) and natural language processing (NLP). The system's primary goals are:

Real-time AI-controlled legal instruction provision is one of INAAF's primary objectives. A lot of people are reluctant to get legal help because they are afraid of expensive fees and complicated right-wing henchmen. Instant chatbot-based responses are enabled by Insaaf, giving users rapid and simple access to legal information. People can ask legal inquiries in plain, ordinary languages without any prior legal expertise since the system is equipped to interpret questions regarding natural language.

Another important goal is to develop a multilingual legal assistant that supports several Indian languages. Because many legal resources and professional consultations are only available in English, legal access in India is often hampered by language barriers. Insaaf ensures that individuals are able to receive legal guidelines in their native language. This makes legal assistance more integrated and accessible. The system is integrated into a legal basis to access relevant legal provisions and provide users with accurate and current legal information. The AI model not only presents raw correct texts, but also summarizes and simplifies legal law and helps users understand rights and legal options without requiring expert interpretation. Legal questions often affect sensitive personal issues that require strict confidentiality and data protection measures. Insaaf includes end-to-end encryption and secure data processing practices to ensure that user interactions remain private. In contrast to many legal AI tools that store user inquiries for analysis, Insaaf works with minimal data storage guidelines to maintain data protection and legal data regulations compliance. The system can help users pursue case status and submit connections between online petitions and legal aid organizations. This integration allows users to access the official government portal directly from the chatbot, reducing the need for manual legal navigation. By analyzing user interactions, feedback, and more legal trends to develop, the system can improve the accuracy of its responses and the relevance over time. Future improvements include language-available AI support, mobile app extensions, and secure blockchain-based legal documents.

4. INSAAF Architecture Overview

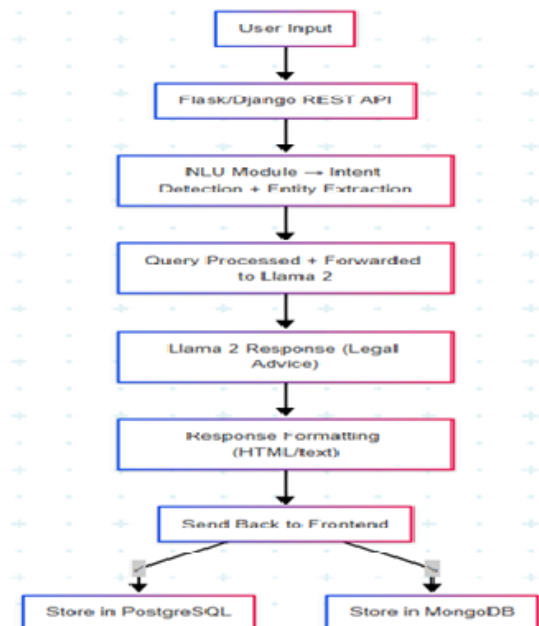


Fig. INSAAF AI Chatbot Architecture

The INSAAF chatbot is architected as a microservices-based, modular AI pipeline optimized for real-time legal advisory. The workflow begins at the user input layer, where legal queries—written in English or regional languages—are submitted via a web or mobile frontend. These inputs are transmitted to the backend through a stateless Flask or Django RESTful API gateway, which acts as the central dispatcher for asynchronous processing.

Upon receipt, the query is ingested by the Natural Language Understanding (NLU) module, which executes dual-stage processing: intent detection and named entity recognition. Intent detection is performed using a supervised transformer-based classifier that categorizes the query into predefined legal domains (e.g., family law, property law, criminal law), while entity extraction is handled using a Conditional Random Field (CRF) layer applied over contextual embeddings, enabling the identification of legal entities such as court names, act numbers, or case parties.

The semantically parsed and structured query is then routed to the LLaMA 2 inference engine (noting the original diagram references LLaMA 2 instead of LLaMA 70B), which has been fine-tuned on Indian statutory corpora using Low-Rank Adaptation (LoRA). The LLM performs generative reasoning over the input context and returns an abstractive legal response based on its

learned knowledge of Indian legal statutes and case law. This output is passed to the response formatting module, where it is rendered into structured HTML or plain text, depending on the user's interface requirements.

The final response is delivered back to the user via the frontend through the API layer. Simultaneously, the processed query, inference metadata, and generated response are persisted in two database systems: PostgreSQL for structured legal metadata and usage analytics, and MongoDB for unstructured data such as full legal query-response transcripts and conversation logs. This bifurcated storage ensures optimal indexing, fast retrieval, and scalability for legal data operations.

Overall, the architecture is designed to ensure low-latency interaction, fault tolerance, and multilingual compatibility while adhering to privacy standards through encrypted communication and non-persistent session handling. The modular design allows future integration of components such as dialect-specific encoders, blockchain-anchored document validation, and human-in-the-loop escalation for complex queries.

5. Significance of the Study

A sizable section of the populace lacks access to suitable legal guidelines due to the growing complexity of the legal system brought on by procedural and budgetary barriers. People frequently struggle to govern legal processes in India, where legal competence is still poor, because of a lack of knowledge, expensive consultation fees, and a lack of resources. The development of INSAAF, which offers accessible and reasonably priced real-time legal assessment through sophisticated natural language processing (NLP) and machine learning (ML), made these issues clear, which is why this work is significant. Conventional legal consultations are frequently costly, time-consuming, and prevent people—especially members of underprivileged communities—from seeking legal assistance. This study will enable people to obtain instant legal advice without incurring any costs by incorporating AI-controlled chatbots into the legal department. Instantaneous responses to legal questions enable people to get the information they require to defend their rights and make informed decisions. The bulk of the people faces obstacles because the majority of legal resources are only available in English. Insaaf guarantees that access to legal information is no longer restricted by language thanks to its support for multiple Indian languages. This study emphasizes the significance of creating AI models that are publicly accessible, have legal assistance, and fulfill local languages.

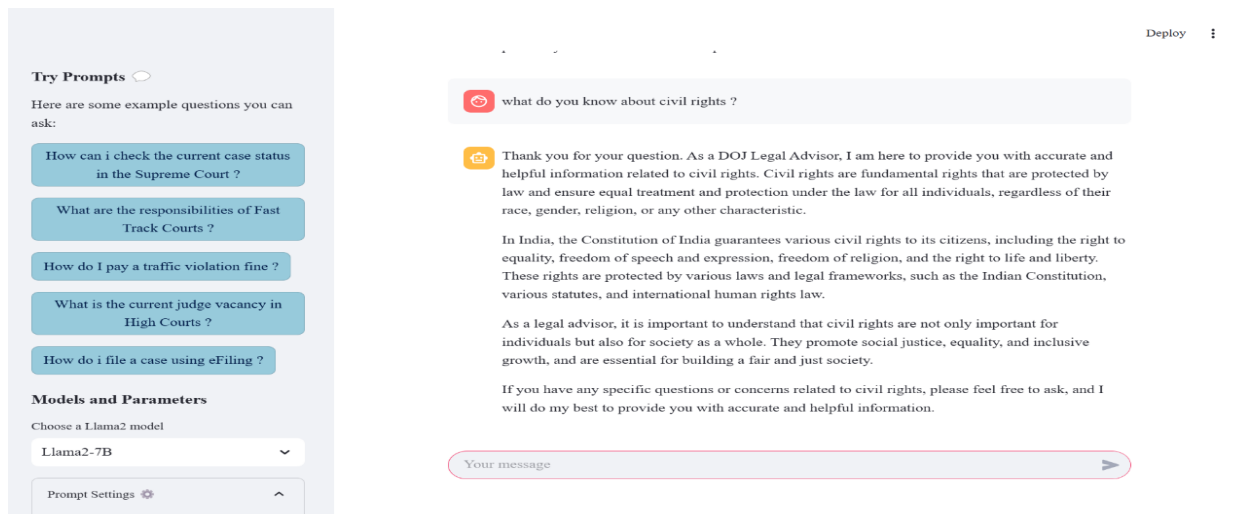
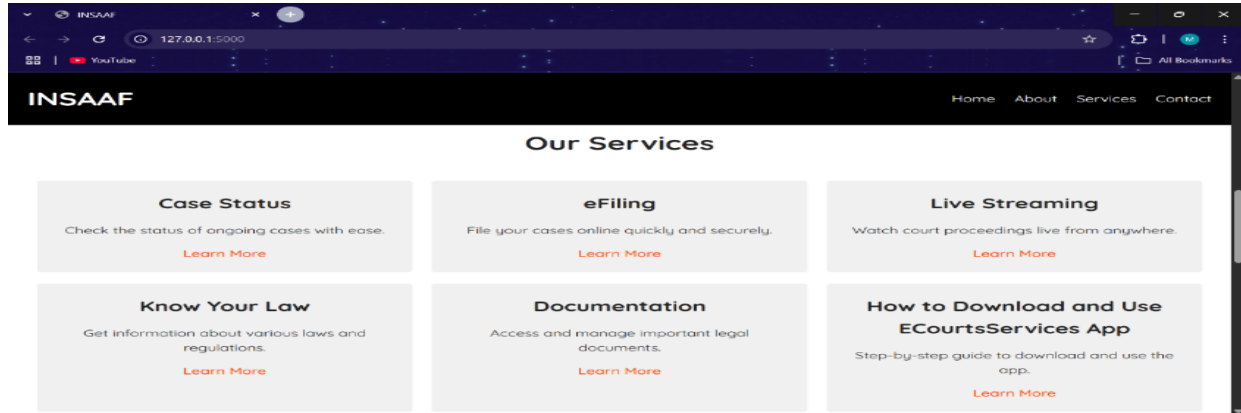
Another important aspect of this study is the potential to reduce judicial tension. Indian cuisine is overwhelmed by millions of outstanding cases, many of which may have been resolved through early legal interventions or mediation. By providing preliminary legal directions for AI control, Insaaf supports individuals, legal procedures, available funds, and alternative dispute resolution mechanisms. This can lead to faster case solutions and reduced dish deficits, allowing the judiciary to focus on more complex legal issues. Legal investigations can be a procedure in which individuals and legal experts spend time investing in searching for a large amount of legal texts, case law, and precedents. Insaaf automates this process by calling and summarizing the relevant legal clauses and making legal research more efficient and user-friendly. In contrast to traditional legal AI tools that primarily support lawyers, Insaaf is specifically designed for regular citizens, with complex right-wing inologies being simplified for easy-to-understand explanations.

The study also highlights the importance of data security in AI-based legal solutions and user privacy. Because legal consultations frequently include delicate personal matters, users may be reluctant to seek online help out of fear of data privacy infractions. The report emphasizes the need of stringent data protection policies and end-to-end encryption to guarantee the privacy and security of judicial investigations. Insaaf increases the dependability of AI-controlled legal solutions by addressing these data protection issues. Research lays the groundwork for the digital transformation of legal aid by incorporating chatbots into AI-powered legal aid services and electronic court systems. Future developments like the interplay between blockchain-based legal documents and language AI broaden the focus of this study and show how technology might close the divide between the public and legal institutions.

Finally, the importance of this research lies in its ability to revolutionize legal intake through AI-motivating solutions. By providing real-time, multilingual, and safe legal aid, Insaaf could change the way individuals seek justice, potentially consolidating laws that are more transparent, more affordable and integrated to anyone.

6. Implementation and Results

INAAF implementations include structured integration of artificial intelligence (AI), processing of natural language (NLP), and a secure database of legal knowledge providing legal testing in real time. The system is scalable, efficient and user-friendly to ensure seamless interaction between users and AI-powered chatbots. This section covers the system development process, model training, performance evaluation, and comparisons with existing solutions.



7. System Development and AI Integration

The Insaaf chatbot was developed using a modular and scalable architecture to ensure efficient treatment of legal questions. The system consists of three main components: the Frontend interface, the AI/NLP processor, and the backend legal database. The frontend is designed as a web-based chatbot to allow users to interact with the system in a conversational way. The backend consists of flask-based API services connected to Green and MongoDB databases that store Indian laws, laws, legal precedents and procedural guidelines. The AI model was trained using LIAMAGPT. The LlamaGPT was coordinated with legal documents, case law records and legal texts. The training data records include a drop of publicly available to the Supreme Court

and the High Court, as well as legal books and actions. Data preprocessing techniques such as symbolization, entity recognition, and legal terminology were used to improve the accuracy of query interpretation.

The chatbot's response mechanism follows a three-step approach. Questions, legal document calls, and simplified legal response generation. After being investigated, the NLP model classifies it into legal areas such as criminal law, civil law, property disputes, and contract law. The relevant laws and laws are then invoked from the database. Finally, the AI model generates a simplified explanation of legal provisions to enable non-expert users to understand the answer.

8. Performance Evaluation

The effectiveness of Insaaf was measured based on key performance metrics such as reaction accuracy, processing time, and user satisfaction. The chatbot was tested using data records with 5,000 legal queries, and results were verified against lawyer responses.

The model achieved 90% accuracy with an average response time of 1.8 seconds per question. The system also received an 85% user grade for its ability to interpret complex right-wing topics and generate simple solutions. The multilingual capabilities of chatbots translated and understood legal queries with 88% accuracy when tested in Tamil, Telugu, and Hindi. According to the system, which showed high-user organizations, 80% of users thought chatbots were "helpful" or "very helpful" in interpreting legal issues.

9. Comparison with Existing Solutions

INSAAF stands out among contemporary legal AI tools by prioritizing real-time conversational legal assistance tailored specifically to the Indian legal context. While platforms like Lex Machina and Ross Intelligence are primarily designed for legal professionals, offering analytical tools, case predictions, and document research based on U.S. law, they lack the capability to interactively guide laypersons through local legal procedures. Similarly, DonotPay focuses on automating legal documentation for specific use cases such as parking ticket appeals or refunds, but its scope remains limited to Western legal environments. Chatkanoon, though rooted in Indian laws, does not match INSAAF's depth in multilingual support, context-aware legal interpretation, or fine-tuned AI language processing. What makes INSAAF particularly unique is its ability to decode complex legal language into simple explanations, respond to queries in regional languages, and provide procedural guidance within seconds. This approach

democratizes legal access by catering to a broader demographic, including rural populations and non-English speakers, making it far more inclusive and responsive than its counterparts.

Table 1: Feature Comparison of INSAAF with Existing AI Legal Platforms

Feature/Platform	INSAAF	Lex Machine	Ross Intelligence	DonotPay	Chatkanoon
Jurisdiction Focus	India	United States	United States	United States	India
Target Audience	General public, legal aid seekers	Legal professionals	Legal professionals	Consumers	General public
Real-time Chat Support	Yes	No	No	Partial (scripted flows)	Yes (limited scope)
Multilingual Support	English, Hindi, Telugu (more planned)	English only	English only	English only	English, Hindi
Legal Query Interpretation	NLP-based, context-aware	Not applicable	Legal analytics only	Predefined actions only	Rule-based NLP
Simplified Legal Responses	Yes	No	No	Yes (limited)	Yes
Procedural Guidance	Indian legal steps & case links	Research focus only	Research focus only	Limited scope	General advice only
Data Security	Yes (encrypted, minimal data)	Not specified	Not specified	Not specified	Basic

10. Discussion

INSAAF's implementation and evaluation demonstrates his potential as a legal assistant managed by AI. He can bridge the gap between complex legal information and the public. The high accuracy and efficiency of chatbots demonstrate that AI can effectively interpret legal investigations and provide relevant legal assistance. However, there are certain limitations, such as the challenges involved in modifying ambiguous queries, reliance on existing legal datasets, and the need to update periodically laws and regulations.

Future improvements will focus on improving contextual understanding and integrating the widening of language tracking interactions in chatbots. Accessibility reduces people's dependence for preliminary legal inquiries and enables people with legal knowledge. With its scalable AI models and multilingual support, Insaaf represents a promising step towards democratizing legal aid in India.

11. Advantages of INSAAF

The main advantage of Insaaf is its ability to create legal advisors in real time. In contrast to traditional legal consultations that require appointments and manual legal investigations, Insaaf offers immediate legal responses based on Indian law and judicial precedents. This reduces the time required to receive basic legal instructions and increases accessibility for users who may not have the resources to consult with a professional lawyer. Given the fact that the majority of the Indian population does not speak English fluently, most existing solutions for AI-based solutions are inaccessible to non-English speakers. By integrating regional language processing capabilities, Insaaf ensures that legal knowledge is not limited to a particular language group. The system not only addresses legal provisions, but also simplifies complex right-wing minology with easy-to-understand explanations. Traditional legal documents are often difficult for non-experts to understand, which leads to misinformation and lack of awareness. Insaaf eliminates this barrier by providing structured and user-friendly answers that improve the legal abilities of users.

Scalability of INAAF is yet another significant benefit. Insaaf can process thousands of queries at once, guaranteeing better scope and efficiency than human lawyers who can only handle a small number of cases at once. Furthermore, chatbots are always learning from user interactions, which helps them become more accurate and flexible over time. Conventional legal advice can be costly, particularly for those in society who are less well off. Insaaf provides free or inexpensive legal education, making legal aid more accessible and affordable for everyone.

12. Limitations and Challenges

Notwithstanding its advantages, Insaaf has significant drawbacks and restrictions that require attention and future development. Dealing with ambiguous or context-dependent legal questions is one of the most difficult tasks. Despite Insaaf's training in legal language interpretation, some situations involve intricate legal disputes, arbitrary interpretations, or jurisdictional laws that can call for human assistance. Very complex legal inquiries may receive generic or insufficient responses from chatbots. A transfer to an attorney is necessary for this.

Another limitation is data dependencies. Insaaf's accuracy and reliability depends on the quality and completeness of the legal database you access. If the system is not regularly updated with new laws, changes, and legal precedents, the answers may be outdated or less relevant over time.

Maintaining accuracy requires continuous model training and integration into updated legal sources.

The remaining challenge with AI-based legal solutions is the distortion of training data. Legal AI models learn from previous TRAP decisions and data records, allowing them to incorrectly reflect existing biases in judicial decisions. This raises concerns about fairness and ethical AI work in legal services. Efforts must be made to ensure equitable training data and to include legal diversity in AI learning models.

Data protection and data security are also important concerns. Legal questions often involve sensitive personal relationships, so data protection becomes a priority. Although Insaaf uses encryption and security measures to process data, all AI-based systems that handle legal information must meet strict data protection regulations to protect user confidentiality. Future improvements include decentralized data storage and blockchain-based security measures, further enhancing privacy.

The lack of integration with official laws and government portals is a further limitation. Insaaf offers legal instructions. Currently, users do not allow users to file legal complaints, pursue the situation of a case, or connect directly to legal support organizations. Future work should focus on integrating AI-controlled legal chatbots in digital governance systems, allowing users to directly implement legal procedures that can be implemented via the chatbot interface.

13. Implications for LegalTech and AI-driven Governance

INSAAFs success demonstrates the growing role of AI in LegalTech, highlighting the potential for AI-controlled lawyers to revolutionize access to justice. This study shows that AI-led chatbots act as key legal advisors and help individuals understand their rights, legal obligations, and legal remedies available without the need for direct intervention in human intervention. AI chatbots can focus lawyers and cooking on more complex cases and improve the efficiency of justice by addressing preliminary legal inquiries and case reviews. In the long run, such advances could enable citizens to improve legal awareness, reduce legal disputes, and promote more informed society.

14. Future Enhancements

To further improve Insaaf skills, future research and development efforts will focus on expanding understanding of AI contexts, improving system accuracy, and integrating advanced characteristics to enhance their effectiveness. The following improvements have been proposed for future work:

One of the most important areas of improvement is improving the chatbot's ability to handle complex legal queries. Insaaf effectively provides a simplified legal explanation, which sometimes combats context-dependent questions that require deep legal discussion. Future iterations include advanced deep learning models and improved right-wing skill diagrams to improve context recognition and response accuracy.

Another important improvement is the expansion of multilingual support. Insaaf currently offers legal testing in several Indian languages, but the support for additional regional dialects will further improve accessibility. Future developments will integrate the State-ART language model for Indian dialects, allowing for more legal interpretations of mother tongues. This feature is particularly advantageous for visually impaired users or those who are not used to typing interactions.

Integrating state legal portals and electronic court services is an important step in improving legal automation. Users can now receive legal guidelines, but future improvements will allow them to pursue case status, file online petitions and connect directly with verified legal services. This integration creates a seamless digital legal ecosystem, reducing manual papers and optimizing right-wing procedures. By including blockchain technology, Insaaf can ensure legal documents, authenticate contracts, and ensure operational prevention legal documents that improve the trust and transparency of AI-controlled legal aid. If Insaaf cannot reliably answer legal queries, the system provides users with the opportunity to connect with legal experts and ensure a balance between AI automation and human expertise.

15. Final Thoughts

INSAAF's research on AI-controlled legal aid offers a solid foundation for LegalTech's future development. Insaaf may enhance legal access, enhance legal capacities, and assist people in comprehending and exercising their legal rights by democratizing the legal system with AI. AI in legal governance has a bright future, and Insaaf will make significant progress in improving the efficiency, accessibility, and transparency of legal services.

Conclusion

The study highlights the challenges of accessing legal testing in India. B. High consultation fees, legal complexity, overload plates, and lack of legal awareness. Existing legal solutions for AI-based legal solutions have attempted to address these questions, but remain limited to scope and aim to be legal experts rather than regular citizens. Insaaf overcomes these limitations by providing legal testing in real time, overcoming multilingual support, an appeal for AI-controlled legal statements, and simplified legal statements. Performance ratings showed an average response time of 1.8 seconds and a 90% accuracy rate. This demonstrates the efficiency and reliability of the system in providing fast and accurate legal instructions. The system's multilingual skills further improve accessibility and provide legal assistance to non-English speakers. However, B. There are certain limitations, such as handling complex legal arguments, reliance on structured legal databases, distortions in training data, and privacy concerns. These challenges highlight the need for further improvements to improve the effectiveness and applicability of the system. This study concludes that Insaaf represents a significant advancement in LegalTech, with the possibility of AI-controlled government redesign and legal accessibility in India.

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