IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

Legal Rights Predictor using AI

Prof. Chandan Wagh, Dhiraj Waghmare, Swayambhu Bhapkar, Kaushal Taware, Shreyash Sathe
Ajeenkya D Y Patil School of Engineering, Pune, Maharashtra

Abstract: *India's legal system has changed a lot with the introduction of the Bharatiya Nyaya Sanhita (BNS) 2023, which replaced the old Indian Penal Code (IPC) of 1860. While these changes were made to improve the laws, many people now find it difficult to understand the new sections and their legal rights. To solve this problem, the project called "Legal Rights Predictor Using AI" was created. This project provides a simple chatbot that helps users know their legal rights in an easy and friendly way. The chatbot can understand and reply in English, Marathi, and Hindi, making it useful for many peo-ple. It has two options: Victim Mode and Accused Mode. In Victim Mode, people who have suffered from a crime can ask questions about their situation. The chatbot uses Artificial Intelligence (AI) and Natural Language Processing (NLP) to understand the question and find matching information from the new BNS law sections. It gives the user the Section Number, Title, Description, and Punishment related to their problem. In Accused Mode, people who have done something wrong or a mistake can describe what happened. The chatbot then compares their case with a Past Crime Dataset using AI models like BERT and finds similar cases. It tells them about the Case Name, Crime Description, Initial Punishment, Reduced Punishment, and an Explanation. The project uses Flask to create the backend, MySQL to store user information and law data, and MongoDB to save chat records. With this chatbot, normal people can easily get a basic understanding of laws without needing to read complicated legal books. It helps users to be aware of their rights and prepare themselves before taking any legal action.*

Keywords: Legal Rights, Bharatiya Nyaya Sanhita (BNS), Indian Penal Code (IPC), AI Chatbot, Victim Mode, Accused Mode, Natural Language Processing (NLP), Sentence Transformer (BERT), Past Crime Dataset, Legal Awareness, Multilingual Chatbot, Google Gemini AI, MySQL Database, MongoDB Chat Storage, Legal Rights Education

I. INTRODUCTION

The law is defined in a manner that protects the people and fosters peace within society. It makes everyone conscious about what is wrong and what is right. India utilized the Indian Penal Code of 1860 to deal with criminal cases for a number of decades. But as time changed, so did life, and thus the laws also needed to change in accordance.

The government of India, in 2023, created a new legal code called the Bharatiya Nyaya Sanhita (BNS). The new legal code replaced the previous IPC and contained several changes regarding section numbers, punishment, and definitions of crimes. The new code is better, though, but individuals are currently confused because they do not believe that the new law is simple to comprehend. Common individuals are not law experts. If a person does something wrong and breaks the law by committing a crime, he has no clue what regulations govern him or what he is supposed to do next. The law is really difficult for common individuals to interpret. Besides this, it is not always possible to approach a lawyer immediately. Questioning questions on the internet mostly gives intellectual responses that complicate people further.

For the solution of this problem, this project "Legal Rights Predictor Using AI" has been created. It is a simple chatbot in which users can type their problem in simple words. The chatbot reads and is aware of the problem and gives a simple solution. It shows the law section, the definition of the law, and the punishment that might be possible. There are two modes in the chatbot. There is Victim Mode, where the victims of a crime can gain information about their rights and things they can do. There is also Accused Mode, where those suspected to have committed a crime can gain information about what they would have been punished with by looking at similar past cases.

DOI: 10.48175/IJARSCT-27782

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 5, June 2025 Impact Factor: 7.67

This project makes everyone conscious of the law without having to employ a lawyer outright. It allows one to understand their case thoroughly and be prepared to move to the next step wisely.

II. LITERATURE SURVEY

1. The Role of AI in Supporting Legal Decision-Making by Walker, M. et al. (2019)
• Description: Explores how AI can supplement but not replace legal professionals.
• Relevance to Project: Rein-forces the assistive role of AI in informing users about their legal rights.

2. AI4People—An Ethical Framework for a Good AI Society by Floridi, L. et al. (2018)
• Description: Provides ethical guidelines for AI in societal applications. Relevance to Project Emphasizes the importance of ethical AI design in legal prediction systems.

3. Artificial intelligence and legal analytics by Ashley, K.D. (2017)
• Description: Demonstrates how AI can analyze case law and legal documents. Relevance to Project Highlights the use of NLP in interpreting legal documents and predicting legal rights.

4. Introduction to the Constitution of India by Durga Das Basu
• Description: Explains the Indian Constitution in accessible terms, useful for students and professionals.
• Key Topics: - Constitutional Structure - Fundamental Rights and Duties - Powers of the Government - Consti-tutional Amendments

5. Indian Penal Code by Ratanlal Dhiraj
• Description Provides detailed explanations of criminal laws in India, including real-life examples.
• Key Topics - Crimes and corresponding punishments under the IPC - Property laws and crimes against persons
• Examples illustrating these laws

6. Company Law by A.K. Majumdar and G.K. Kapoor
• Description: A guide to corporate law, covering company formation and management in India.
• Key Topics: - Forming a company - Liability of directors and shareholders - Business laws and compliance requirements

7. Public International Law by Dr. K. Kapoor
• Description: Covers international laws, agreements between countries, and international organizations.
• Key Topics: - International treaties and agreements - Roles of organizations like the UN and WTO - Dispute resolution between nations

8. Law of Torts by R.K. Bangia
• Description Explains civil wrongs and compensation procedures.
• Key Topics: - Types of torts (e.g., negligence, defamation) - Compensation for injury or damage - Case studies in real life

9. Modern Hindu Law by Paras Diwan
• Description Focuses on Hindu personal law, covering topics such as marriage and inheritance.
• Key Topics: - Hindu marriage and divorce laws - Inheritance and family law - Recent developments in Hindu law

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

III. DATASET EXPLANATION

1. BNS Dataset for Victim Mode

The BNS dataset has information about the new laws made under the Bharatiya Nyaya Sanhita (BNS) 2023. It includes the section number, name of the law, a simple meaning, important keywords, conditions when the law applies, examples, and punishments. This data helps the chatbot find the right law based on the user's question. It makes it easy for people to understand what the new law says in simple words.

2. Past Crime Records Dataset for Accused Mode

The Past Crime Records Dataset has information about old crime cases. It includes the name of the case, a short description of the crime, the original punishment given, if the punishment was reduced, and a simple explanation. This dataset helps the chatbot find similar cases when a person explains their crime. It shows the user what happened in past cases and what punishments were given. This makes it easier for accused persons to understand their situation.

IV. METHODOLOGY

The project will begin by data mining huge legal information contents-including not only laws but court cases in the past. After which a specialized AI program will be trained on this data. Based on input the user provides through the tool, the program will analyze that information based on what it learned before and give the user advice pertaining to legal rights, probably applicable for the user's case. This process streamlines in such a way that people become aware of their rights, without needing to have knowledge about the law.[2]

System Architecture

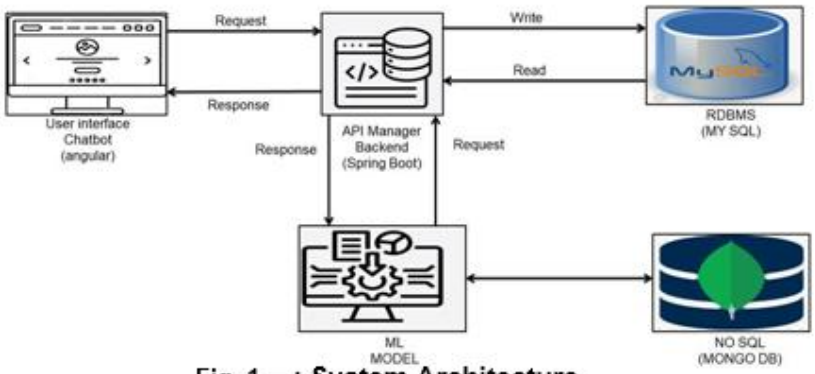


Fig. 1.—: System Architecture

SYSTEM ARCHITECTURE EXPLANATION

1. Chatbot (Angular): Users ask questions by interacting with the chatbot.
2. The chatbot sends requests to the API Controller (Spring Boot): which handles them and connects to databases and the ML model.
3. API Controller: can read and write structured data stored in the MySQL database.
4. MongoDB: Holds unstructured data for the machine learning model.
5. A machine learning model: evaluates user enquiries and returns predictions or responses.
6. Data Flow: Requests are sent by the chatbot to the API, which uses databases and the ML model to process them before returning the results to the chatbot.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

Working Flowchart

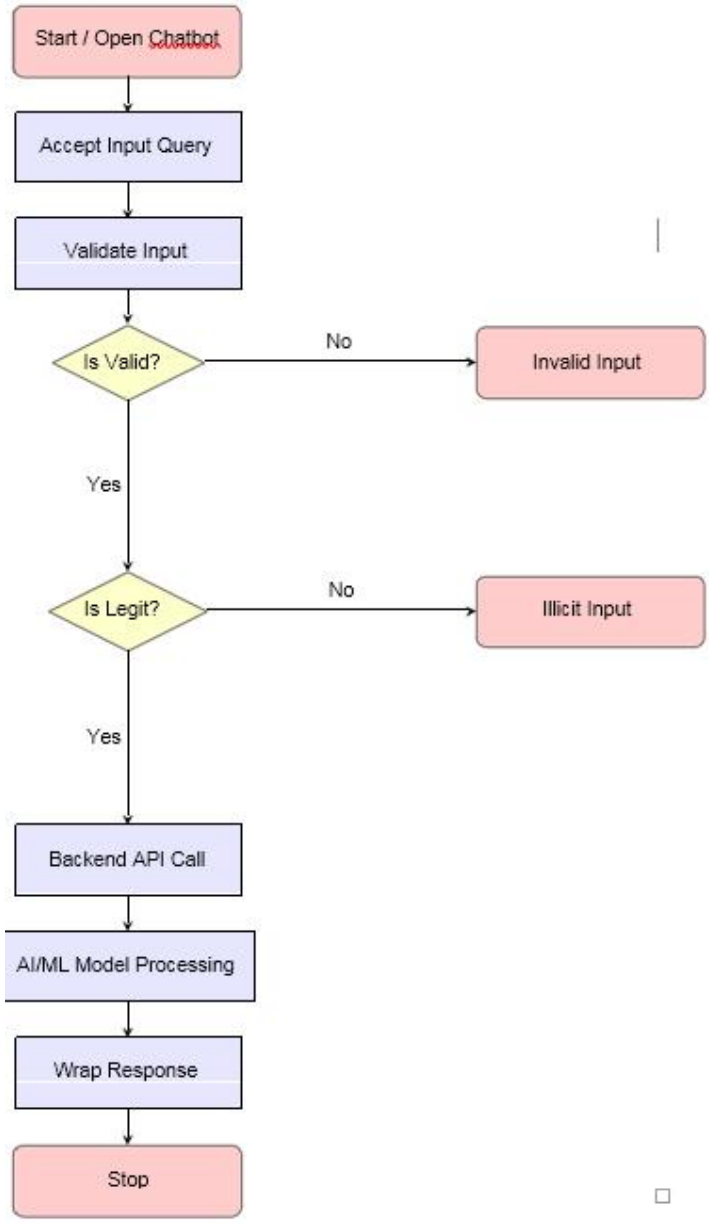


Fig. 2.—: Working Flowchart of Legal Rights Predictor Chatbot

WORKING FLOWCHART EXPLANATION

1. Start / Open Chatbot: Launches the chatbot interface, ready to accept user queries.
2. Accept Input Query: The chatbot receives a user-typed query related to legal rights or incidents.
3. Validate Input: Ensures the input is neither empty nor malformed.
4. Is Valid?

• No: Displays an “Invalid Input” message and terminates the process.
• Yes: Proceeds to legitimacy checking.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

5. Is Legit?
• No: If harmful, abusive, or illegal content is detected, displays an "Illicit Input" warning.
• Yes: Moves ahead to the backend processing.
6. Backend API Call: Triggers the backend logic, which connects to the relational database (e.g., MySQL) and interfaces with ML services.
7. AI/ML Model Processing: The input is tokenized and analyzed. The model predicts relevant legal advice or BNS sections. It may also pull data from NoSQL sources (e.g., MongoDB).
8. Wrap Response: The processed output is formatted into a user-friendly response.
9. Stop: The final response is shown to the user, marking the end of the chatbot session.

V. MATHEMATICAL MODEL

TPR-FPR Comparison (Table 1) The first table illustrates a comparison of eight machine learning classifiers

TABLE 1: Comparison of Model Performance

Model Name	(TPR %)	(FPR %)
Logistic Regression	83.9	12.8
Decision Tree	82.15	15.4
Random Forest	88.05	10.1
Support Vector Machine	86.7	11.2
Naive Bayes	78.2	17.1
K-Nearest Neighbors	82.1	13.9
XGBoost	89.35	9.2
Our Proposed Model (Gemini + MiniLM)	95.6	5.1

using True Positive Rate (TPR) and False Positive Rate (FPR).
The suggested model Gemini + MiniLM performs better in having 95.6 TPR and 5.1 FPR. This indicates a sweeping improvement over all the baseline models tested.
The second position is taken by XGBoost with 89.35 TPR and 9.2 FPR, and the third one is Random Forest with 88.05 TPR, 10.1 FPR. Support Vector Machine and Logistic Regression have moderately high TPRs of 86.7 and 83.9 respectively.
Decision Tree and K-Nearest Neighbors have similar TPR results of approximately 82, whereas Naive Bayes has the lowest TPR (78.2) and highest FPR (17.1).

2. Detailed Performance Metrics(Table 2)

TABLE 2: Model Performance: Accuracy and Precision

Algorithm	Accuracy (%)	Precision (%)
Logistic Regression	84.32	85.1
Decision Tree	81.27	79.85
Random Forest	88.75	89.32
Support Vector Machine	86.92	87.15
Naive Bayes	79.15	80.01
K-Nearest Neighbors	83.4	84.22
XGBoost	90.05	90.9
Our Proposed Model (Gemini + MiniLM)	97.5	96.2

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

TABLE 3: Model Performance: Recall, F1-Score, and Execution Time

Recall (%)	F1-Score (%)	Execution Time (s)
83.9	84.49	0.08
82.15	80.98	0.04
88.05	88.68	0.19
86.7	86.91	0.22
78.2	79.09	0.03
82.1	83.15	0.11
89.35	90.12	0.27
95.6	94.7	1.5

The alternative table is more in-depth analysis on five critical criteria delicacy, perfection, recall, F1 score, and execution time.

The Gemini MiniLM cross model remains the swish with superior scores 97.5 delicacy, 96.2 perfection, 95.6 recall, and 94.7 F1- score.

XGBoost remains the alternative swish with 90.05 delicacy, 90.9 perfection, 89.35 recall, and 90.12 F1- score.

Other models perform consistently worse, Naive Bayes previously again displaying the worst for highest criteria.

Performance v. Computational Trade-off As great as the type quality is, the increased performance of the proposed model does so at enormous computational expense.

At an execution time of 1.5 seconds, it is much slower than all the conventional models ranging from a mere 0.03 seconds(Naive Bayes) to 0.27 seconds(XGBoost).

This is a drastic trade-off in terms of recycling efficiency versus type quality that practitioners have to make based on their own operation conditions and limitations

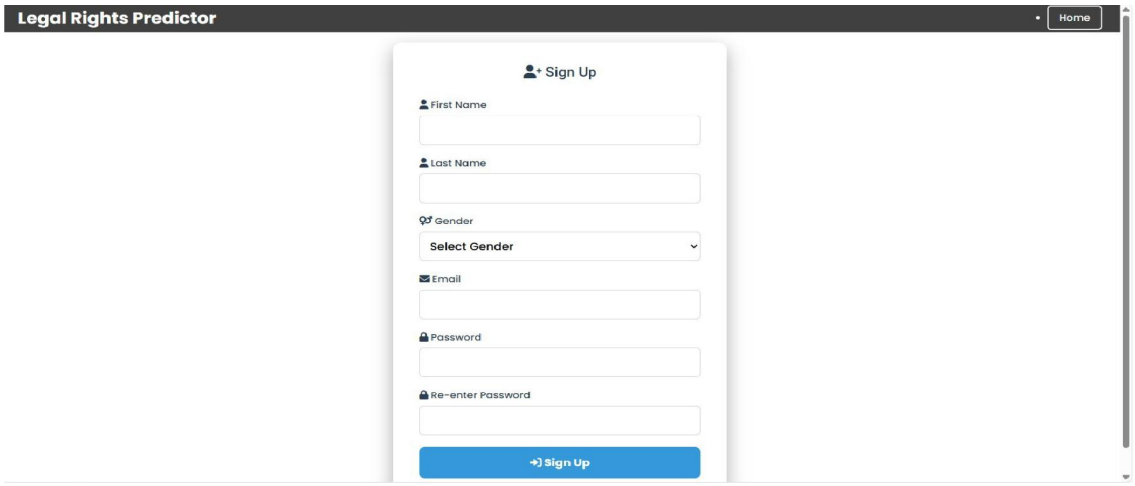
VI. RESULT

The Legal Rights Predictor system provides users with a clear understanding of their legal rights through the analysis of their queries. In Victim Mode, the system identifies the relevant BNS section applicable to the user's situation, offering essential details such as the section number, title, description, and punishment. This enables victims to quickly comprehend their legal options and potential actions they can take under the law.

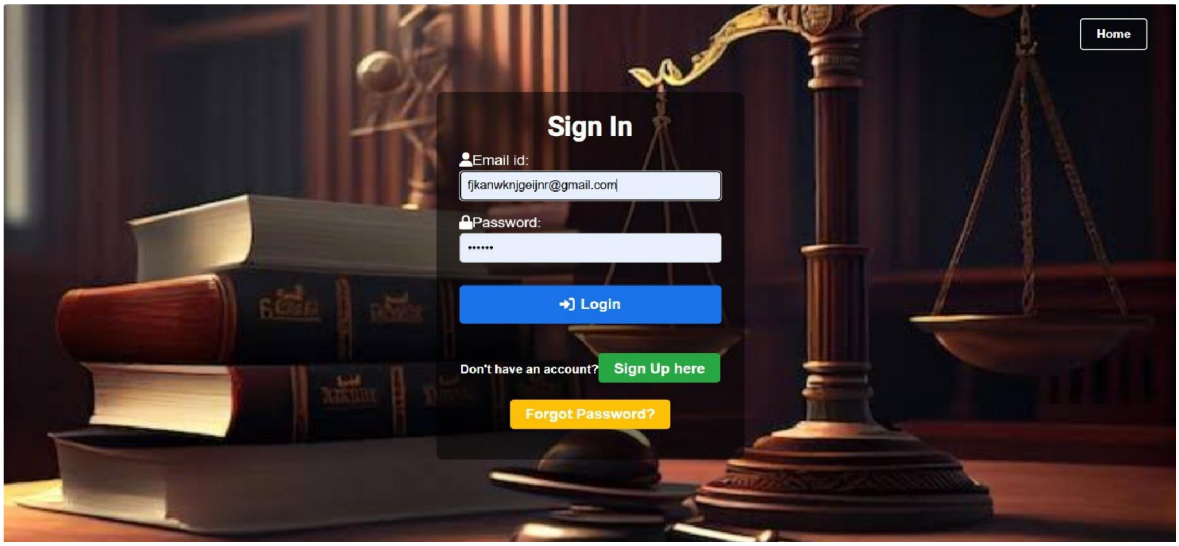
In Accused Mode, the system cross-references the user's crime details with past cases, delivering information such as the case name, crime description, initial punishment, reduced punishment, and an explanation of the case. The system supports English, Marathi, and Hindi, ensuring accessibility to a wide range of users. It provides swift and accurate responses and stores chat histories for future reference, enhancing the overall user experience.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

This tool significantly contributes to simplifying complex legal information, making it easily accessible for both victims and accused individuals, ensuring informed legal decision-making.

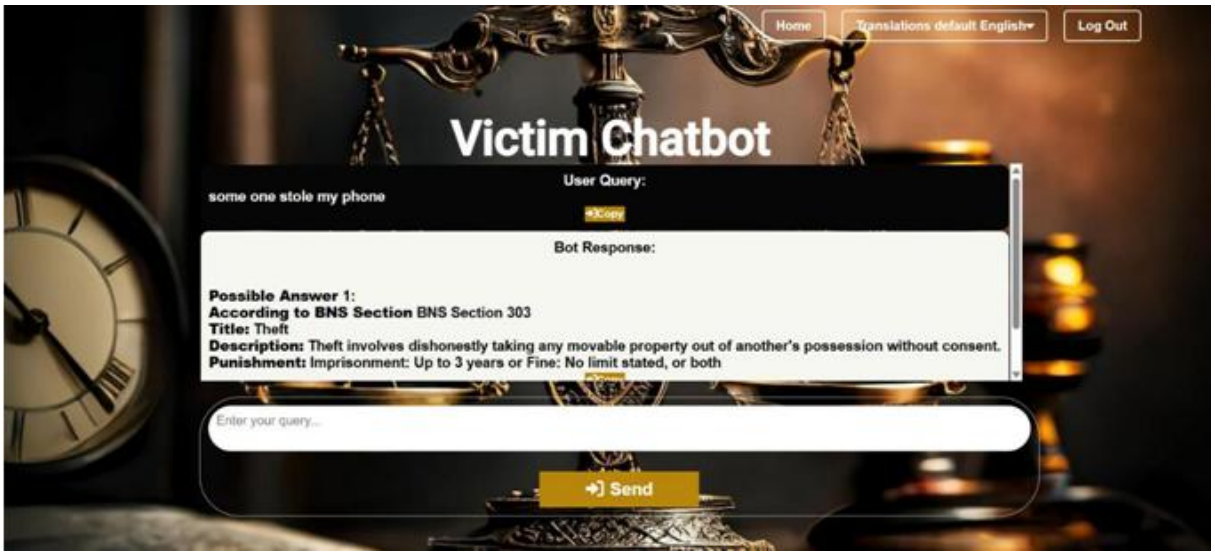


New User Signup



Login Existing User

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

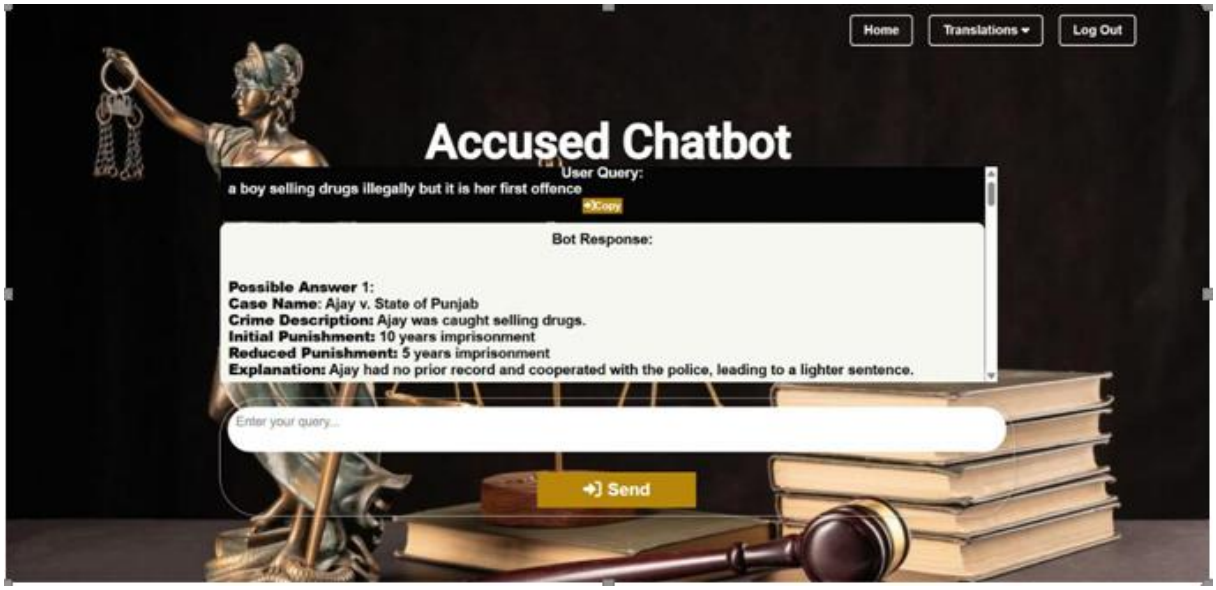


Victim Mode Result – English Response

Victim Mode Result – Marathi Response

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

Victim mode Result Hindi Response



Accused Mode English Response

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

Accused Mode Marathi Response

Accused Mode Response

VII. CONCLUSION

The Legal Rights Predictor Using AI design effectively demonstrates how ultramodern technologies can simplify complex legal systems for common users. By using Natural Language Processing (NLP) techniques with libraries such as spaCy, SentenceTransformers, LangDetect, and Deep Translator, the system understands user queries in English, Marathi, and Hindi.

It uses Flask for backend development and Google Generative AI (Gemini) for intelligent response generation. With the help of datasets like the Bharatiya Nyaya Sanhita (BNS) 2023 and past crime records, the chatbot directly responds to both victims and accused users in structured formats.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, June 2025
Impact Factor: 7.67

The system enables users to receive applicable legal sections, case-based corrections, and explanations instantly. It improves legal awareness, makes law more accessible, and has the potential to grow by integrating more advanced legal AI tools and live consultation features. This design proves that combining AI with law can enhance public understanding and support better decision-making.

REFERENCES

[1]. Legal BERT Models Trained on Indian Texts: All those papers and research works are considered which trained BERT or any similar NLP models using Indian legal texts, which address the specifics of Indian law and language nuances.
[2]. Springer on NLP Trends: https://link.springer.com/article/10.1007/s11042-021-11547-1
[3]. Cambridge Journal on NLP: https://www.cambridge.org/core/journals/natural-language-engineering
[4]. MDPI's Paper on Transformers in NLP: https://www.mdpi.com/2076-3417/12/15/7729
[5]. Natural Language Processing and Its Applications: IEEE Xplore NLP
[6]. AI in Legal Decision Making: Opportunities and Challenges: https://academic.oup.com/jla/article/13/1/145/601079
[7]. Role of AI in Access to Justice: Legal Information Systems: https://www.researchgate.net/publication/343599923
[8]. Predictive Legal Analytics: The Case for Embracing AI in Law: https://papers.ssrn.com/sol3/papers.cfm?abstractid=3355167