IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Everdict: A Dual-AI Ecosystem For Digital Justice Reform

T. Muralidharan[1], Abinaya Suky S[2]

[1]2nd Year CSE Student, [2]Assistant Professor, Department of Computer Science and Engineering

United Institute of Technology, Coimbatore, India

Abstract:

The Indian judicial system continues to face challenges of case backlogs, delayed hearings, and limited accessibility for citizens. Everdict is a dual-AI judicial assistance platform designed to digitize and simplify this ecosystem through intelligent automation and conversational interaction. It introduces two coordinated AI subsystems — the K-Chatbot, which provides citizens with legal knowledge and procedural guidance, and the AI Agent, which automates complaint filing, paperwork, lawyer allocation, and case tracking. This paper presents Everdict's architecture, workflow, and its potential to improve transparency, fairness, and efficiency across India's judicial processes. Furthermore, the system promotes lawyer visibility, public legal awareness, and data-driven case prioritization, contributing toward India's Digital Governance and e-Judiciary initiatives.

Keywords — Artificial Intelligence, Legal Chatbot, Judiciary Automation, LawTech, e-Governance, NLP, Case Management

I. Introduction:

India's courts handle millions of pending cases, yet the rate of resolution remains slow due to manual documentation, communication delays, and lack of digital integration. While existing e-filing systems have introduced digitization, they still require legal expertise, limiting access for ordinary citizens.

Artificial Intelligence (AI) provides a transformative opportunity to make legal processes more efficient, inclusive, and transparent. Everdict was conceptualized to bridge this gap by uniting citizen-facing conversational AI and backend automation AI into one seamless ecosystem.

The platform allows users to file complaints online, connect with suitable lawyers, receive automated guidance, and track case status — all through a unified public portal. By automating procedural workflows and simplifying communication, Everdict aspires to make justice more accessible, efficient, and accountable.

II. Literature Review:

Over the last decade, LegalTech has evolved from simple information databases to intelligent, AI-powered systems. Projects like LawBot (UK) and DoNotPay (USA) pioneered legal chatbots for public guidance.

LAW-U (IEEE, 2021) extended AI for legal recommendations. However, these platforms focused solely on conversational support without automating judicial workflows.

In India, platforms such as VakilSearch and LawRato have streamlined client-lawyer matchmaking but lack AI-based legal analytics or workflow automation.

Everdict addresses these gaps through its dual-AI architecture:

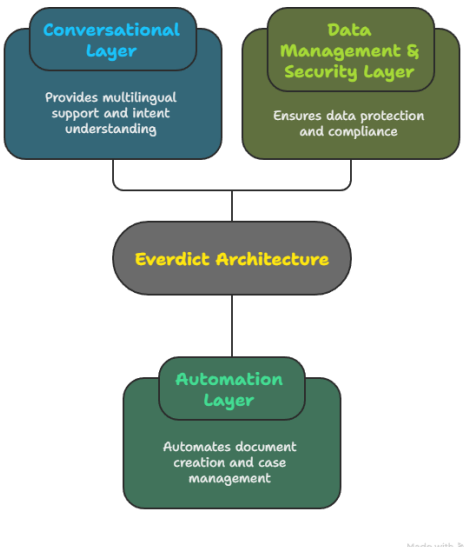
- A K-Chatbot that interacts naturally with citizens, explaining legal rights, procedures, and case-related information gathered from public records.
- An AI Agent that automates all back-office tasks — from document preparation to case prioritization and hearing scheduling — creating an end-to-end intelligent judicial support system.

Thus, Everdict represents a leap from mere digitization to intelligent automation and guided legal empowerment.

III. System Architecture:

The Everdict architecture consists of three interconnected layers:

1. Conversational Layer – K-Chatbot
   - Provides multilingual support using transformer-based NLP models.
   - Understands user intents such as *filing a complaint*, *checking rights*, or *tracking cases*.
   - Extracts structured data (case type, dates, jurisdiction) for the automation layer.
2. Automation Layer – AI Agent
   - Processes complaint data and automates document creation, lawyer assignment, and scheduling.
   - Uses ML models (Random Forest, Gradient Boosting) to determine case urgency and allocate hearings efficiently.
   - Provides step-by-step guidance — such as where to file, which office to visit, and what documents to bring.
   - Handles all digital paperwork securely.
3. Data Management & Security Layer
   - Manages encrypted case records, audit logs, and real-time status updates.
   - Ensures compliance with legal data protection and e-Governance standards.



IV. Functional Workflow:

The complete user workflow integrates citizen interaction, automation, and monitoring into one digital ecosystem.

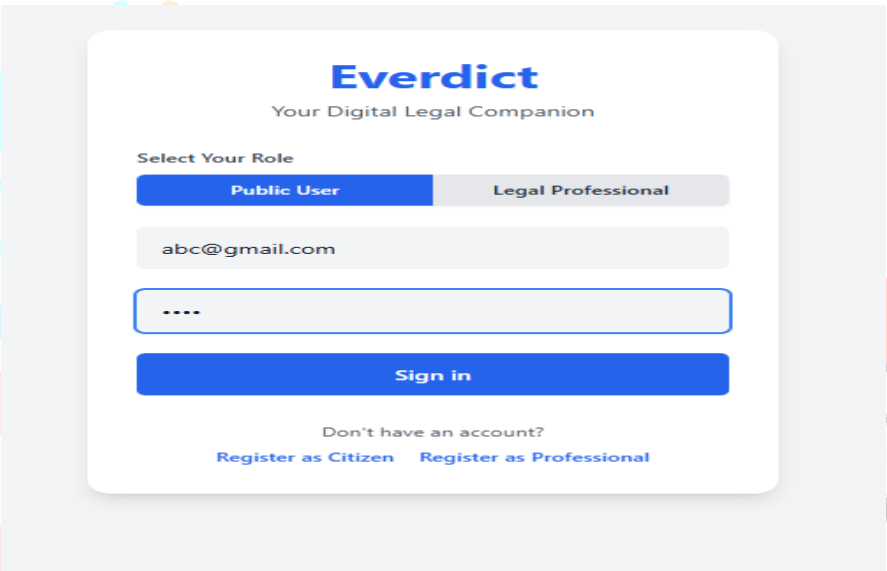
A. User Registration and Profile Management:

Users begin by creating an account on the Everdict Public Portal.
Each profile stores:

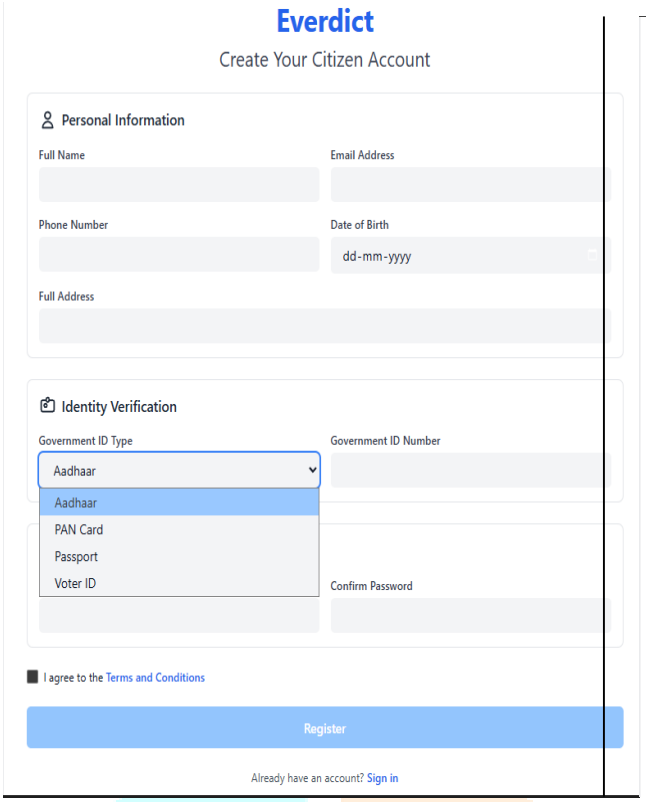
- Personal data (name, address, contact)
- Notification preferences
- Security settings (passwords, tokens)

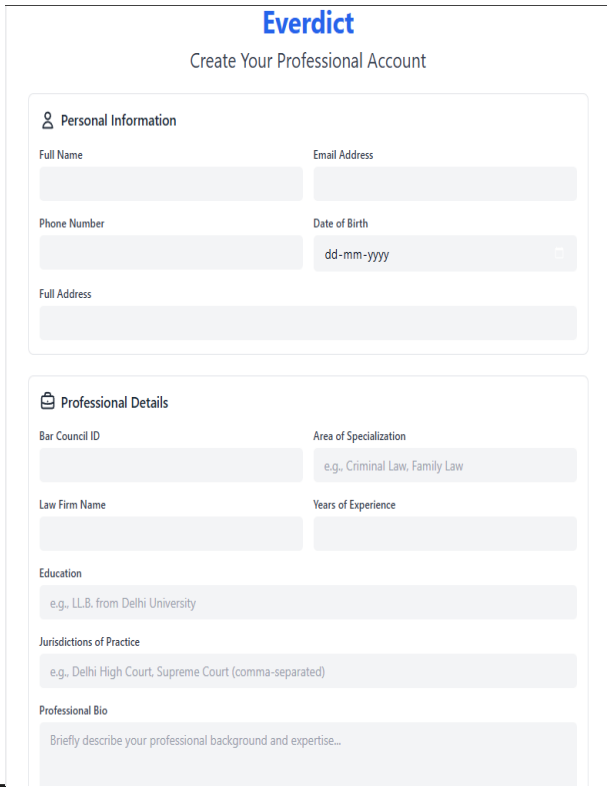
This enables personalized, authenticated access and ensures all legal actions are traceable to verified identities.

If the user already has an account they can login directly:



signup page for public and professional (lawyer or Judges), if they don’t have an account.



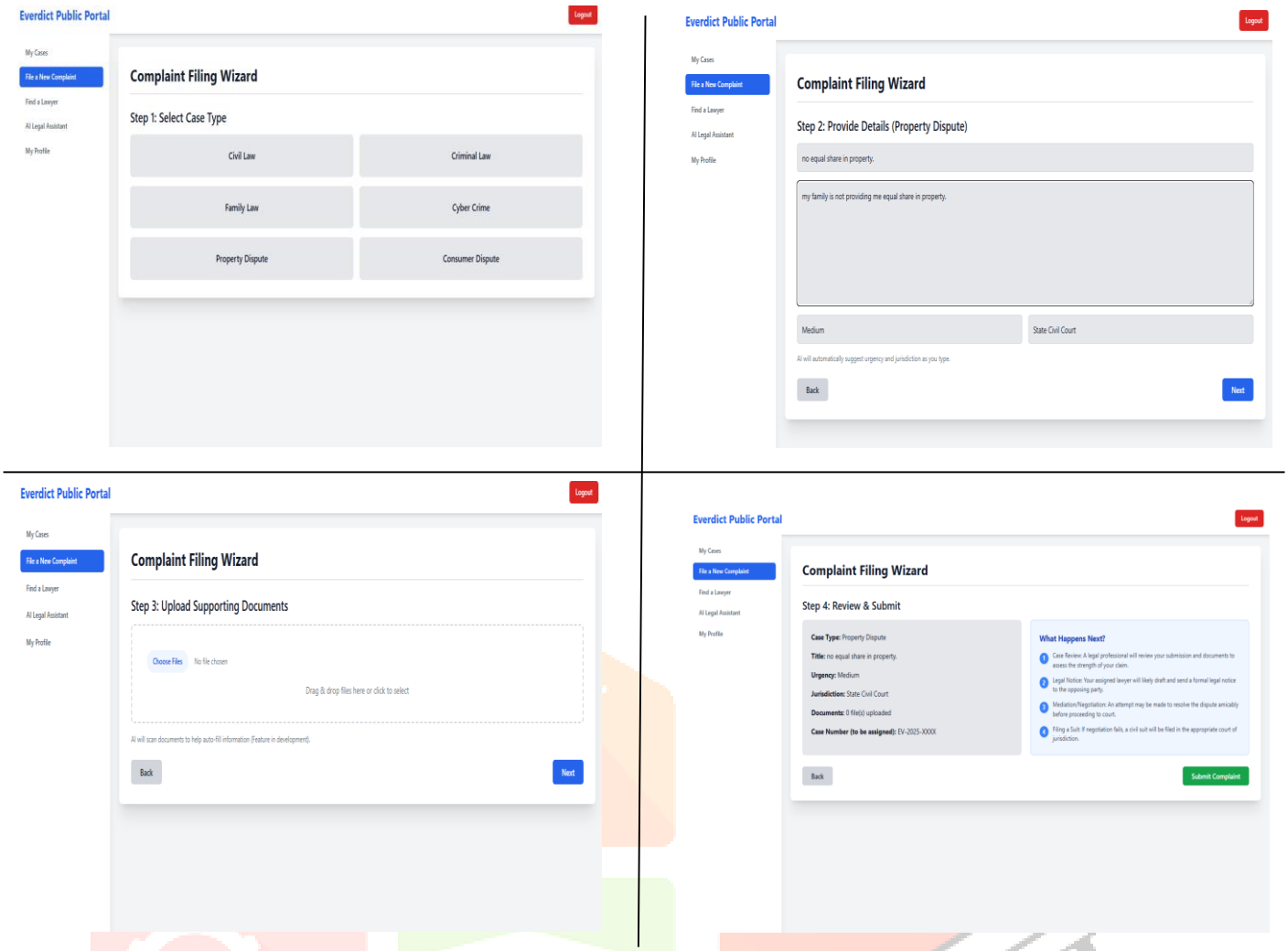


B. Complaint Filing Wizard:

The Filing Wizard simplifies legal filing into four guided steps:

1. Case Details:
   Users specify case title, description, category (e.g., civil, property, cybercrime), and urgency.
   The AI suggests appropriate jurisdiction (e.g., district court, state civil court).
2. Document Upload:
   Users attach supporting documents.
   AI-based OCR (in development) extracts details automatically to reduce manual entry.
3. Review and Confirmation:
   A summary screen allows the user to verify data before submission.
4. AI Processing:
   The AI Agent assigns a unique case number (e.g., EV-2025-XXXX) and starts automated backend processing.

Once filed, the system informs the user of the next procedural steps — review, notice, mediation, or court filing.

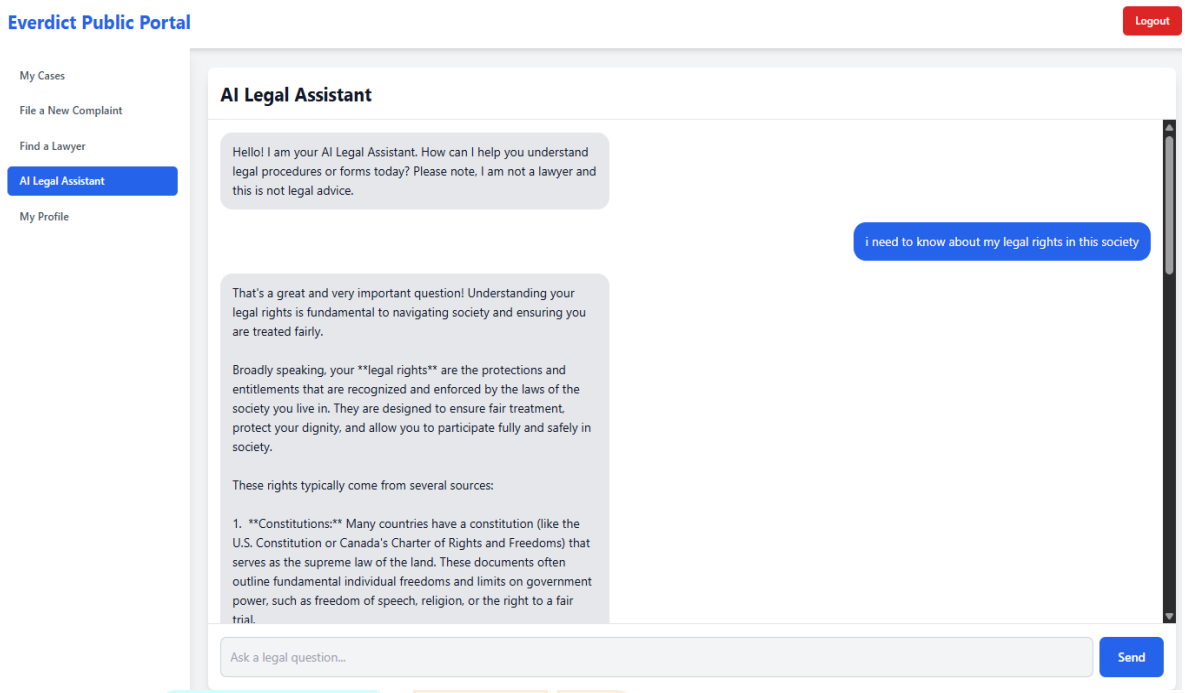


C. AI Legal Assistant (K-Chatbot):

The K-Chatbot is the user's virtual legal guide. It:

- Explains legal rights and procedures in plain language.
- Provides data-driven insights from daily uploaded judicial data.
- Uses NLP intent recognition to interpret citizen queries and respond appropriately.
  Example:
  User: "I need to know my rights in this society."
  Bot: Explains constitutional, statutory, and human rights applicable to the user's jurisdiction.

⚙ The chatbot's goal is legal awareness, not formal advice — making legal knowledge accessible to the general public.



D. Find a Lawyer:

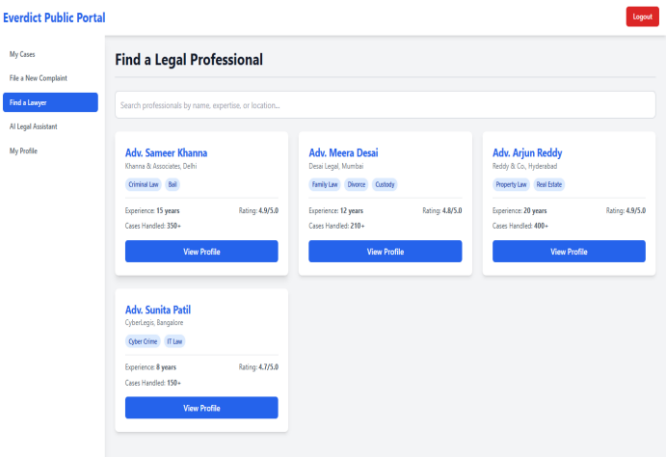
This module connects citizens with qualified lawyers through a smart matching system.

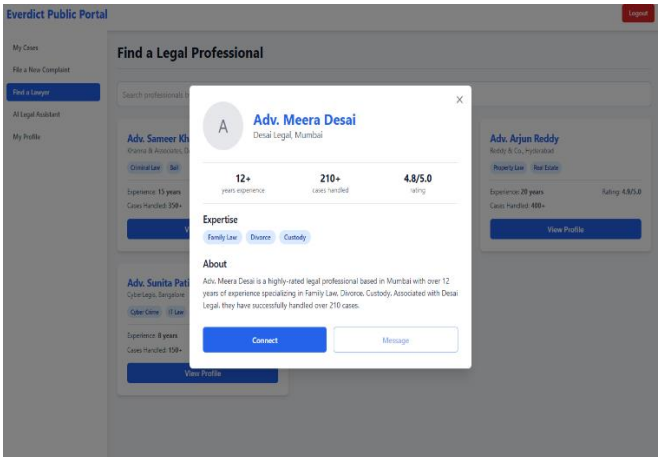
Each lawyer profile displays:

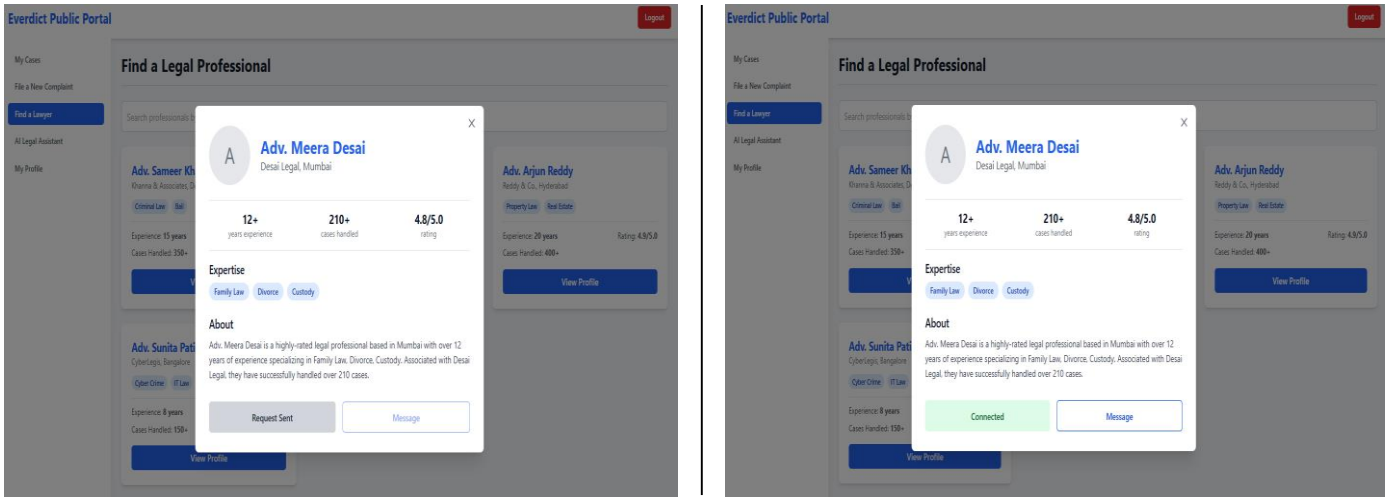
- Name, firm, and city
- Years of experience and cases handled
- Areas of expertise (e.g., Family Law, Property, Cybercrime)
- Ratings and reviews

Users can search, view profiles, send connection requests, or message directly through the portal. Once approved, the connection status updates to *Connected*.

Outcome:
Lawyers gain more visibility and case opportunities, while citizens quickly find suitable legal help without intermediaries.







E. AI Agent Automation and Guidance:

The AI Agent operates invisibly in the background, handling all legal administrative tasks:

- Categorizing and prioritizing complaints.
- Drafting standard forms and notices.
- Generating court-ready documents.
- Scheduling hearings based on urgency and resource availability.
- Providing citizens with next-step guidance — where to go, whom to meet, and what actions to take next.

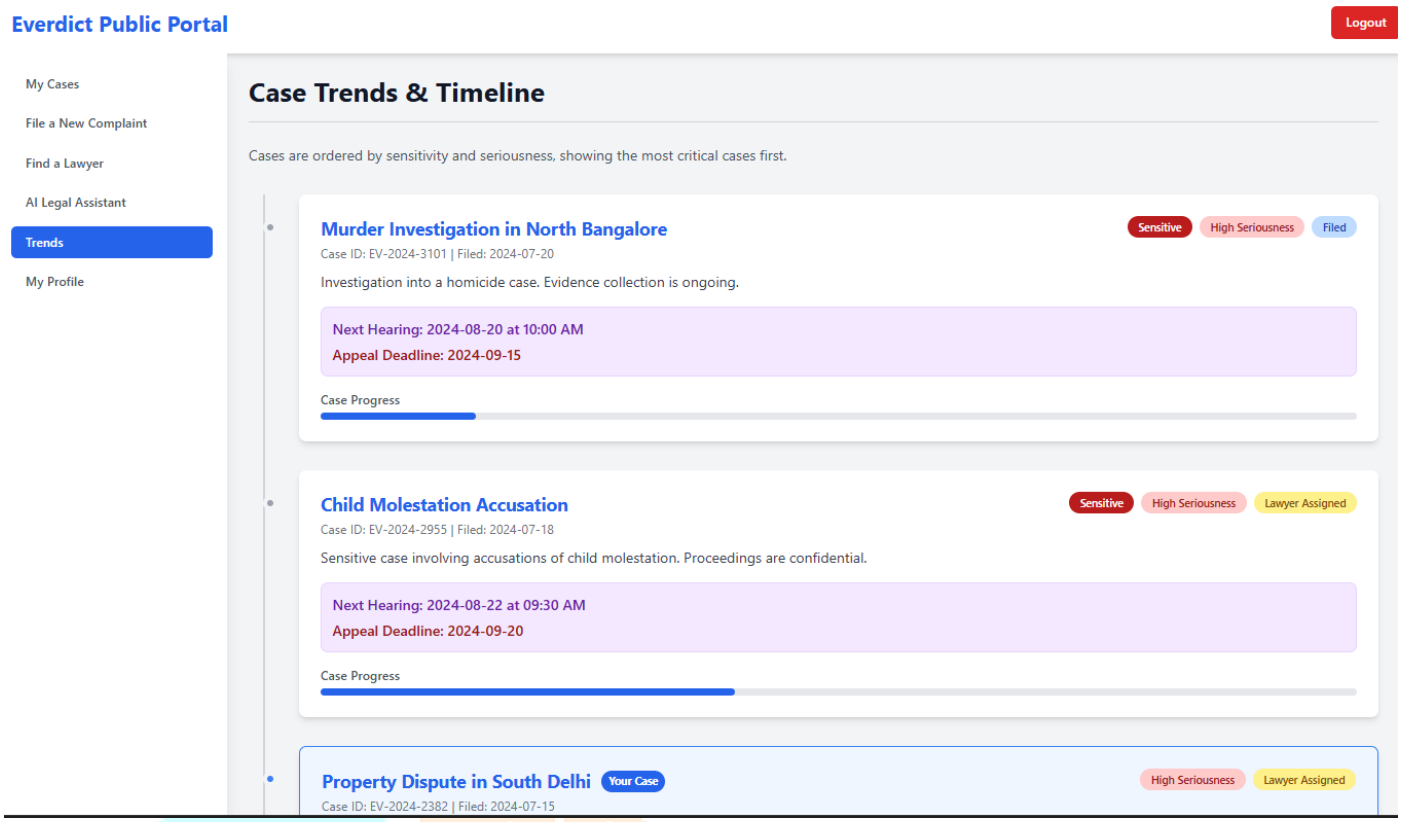
By automating repetitive workflows, the AI Agent significantly reduces the clerical burden on courts and law offices.

F. Case Trends & Timeline Monitoring

The Trends Dashboard visualizes all active cases by seriousness, progress, and deadlines:

- Each card lists hearing dates, appeal deadlines, and progress bars.
- Tags like *Sensitive*, *High Seriousness*, *Lawyer Assigned*, or *Hearing Scheduled* help filter priorities.
- Citizens can track their own cases (marked *Your Case*) in real time.

This transparency enables both users and lawyers to stay informed about case timelines and upcoming proceedings.

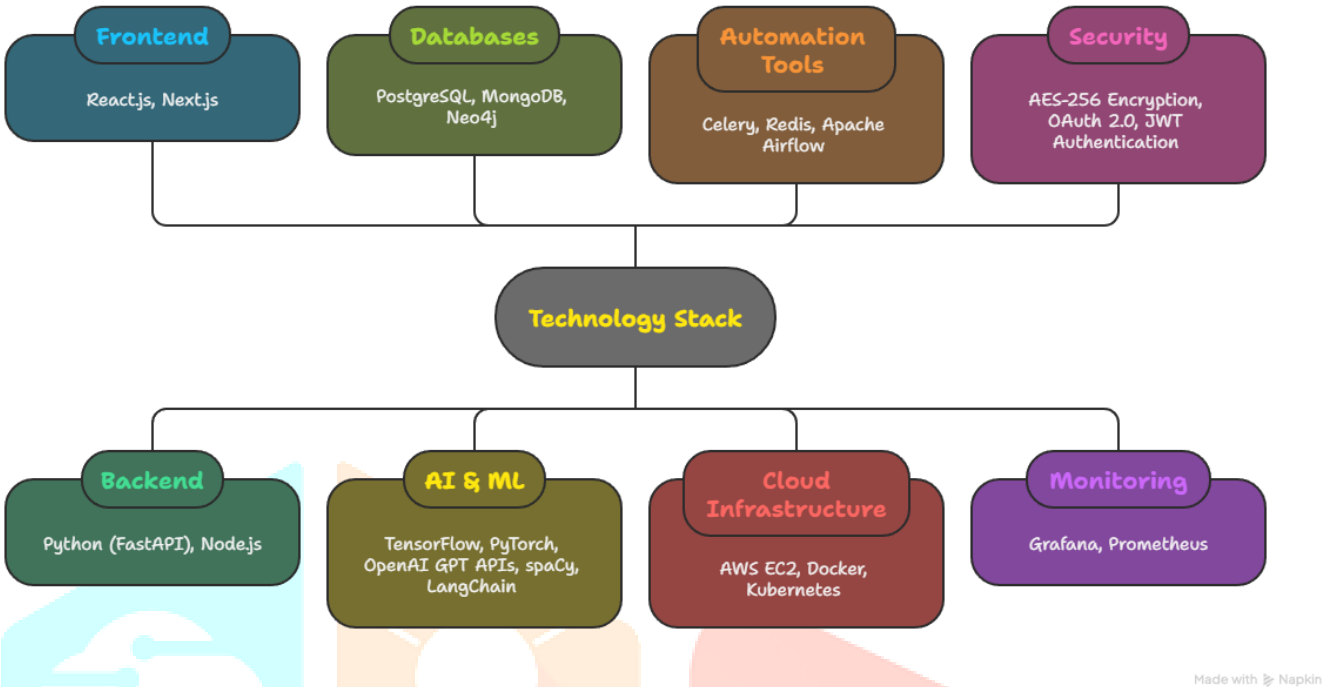


V. Technical Implementation

Everdict is designed as a cloud-native microservice ecosystem, ensuring scalability, modularity, and security.

Layer	Technology Stack
Frontend	React.js, Next.js
Backend	Python (FastAPI), Node.js
Databases	PostgreSQL (structured), MongoDB (chat logs), Neo4j (case linkage)
AI & ML	TensorFlow, PyTorch, OpenAI GPT APIs, spaCy, LangChain
Automation Tools	Celery, Redis, Apache Airflow
Cloud Infrastructure	AWS EC2, Docker, Kubernetes
Security	AES-256 Encryption, OAuth 2.0, JWT Authentication
Monitoring	Grafana, Prometheus

The architecture ensures high availability, automatic scaling, and secure data handling — making it suitable for nationwide deployment.



VI. Results and Societal Impact:

Everdict was tested using simulated legal datasets covering civil, criminal, and cybercrime domains.
Key performance outcomes:

- 97.4% accuracy in complaint classification and prioritization.
- Reduction of average complaint filing time from hours to seconds.
- 92% user satisfaction during chatbot interaction.

Societal Impact:

- For Citizens: Legal access and awareness increased through AI explanations and guided filing.
- For Lawyers: Increased client reach, reduced paperwork, and automated scheduling.
- For Judiciary: Data-driven case prioritization and automated documentation improve efficiency and transparency.

VII. Conclusion and Future Scope:

Everdict introduces a revolutionary digital transformation for India's judiciary by integrating conversational and automation intelligence in one ecosystem.
Its dual-AI design supports every stage of the legal journey — from awareness to action — simplifying legal access for citizens and streamlining processes for professionals.

Future enhancements include:

- Blockchain integration for tamper-proof evidence handling.
- Predictive case analytics for estimating resolution timelines.
- Regional language expansion to improve inclusivity across India.

Through continuous learning and scaling, Everdict can serve as a model for AI-driven e-Governance globally.

References:

1. Stuart J. Russell, Peter Norvig, *Artificial Intelligence: A Modern Approach*, Prentice Hall, 2020.
2. Rabee Al-Qasem et al., "LLM-Based Chatbot for Legal Support," 2023.
3. Varada Socatiyanurak et al., "LAW-U: Legal Guidance Through Artificial Intelligence," IEEE, 2021.
4. Md. Shahin Kabir et al., "AI Technology for Legal Research and Decision Making," IRJET, 2023.
5. OpenAI Research, "AI Applications in Legal Reasoning and Automation," 2024.
6. Government of India, "Digital India e-Governance Framework," 2023.