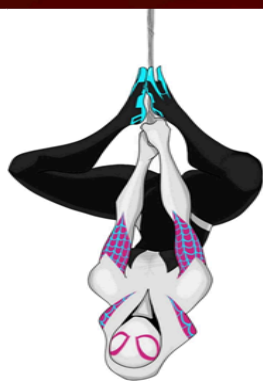
SYRUS Hackathon 2025



Title: LegalMind: An AI-Powered Legal Assistant

Category: Open Innovation

PROBLEM STATEMENT

Legal professionals, businesses, and individuals struggle to manage and interpret lengthy contracts and complex court documents. Traditional legal analysis is slow, expensive, and prone to human error, often missing hidden risks, ambiguous clauses, and crucial precedents. These inefficiencies lead to costly disputes, delayed decision-making, and significant financial losses. Additionally, there is a growing need for an accessible tool that can provide clear legal guidance and predict case outcomes without requiring deep legal expertise. There is a critical need for an AI-driven legal assistant that automates contract analysis, predicts case outcomes based on historical data, and provides instant legal research support.

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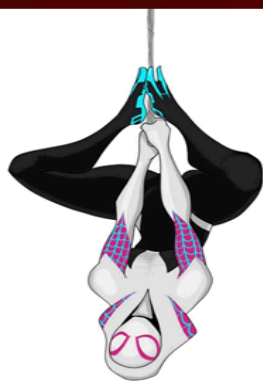

ABSTRACT

The legal field demands extensive research, precise document analysis, and strategic decision-making, yet traditional processes remain slow, costly, and error-prone. Lawyers, businesses, and individuals face challenges in reviewing lengthy contracts, identifying legal risks, and predicting case outcomes without deep expertise. Manually analyzing legal documents increases the risk of overlooking **ambiguous clauses, compliance issues, and hidden liabilities**, often leading to disputes and financial losses. Furthermore, understanding legal precedents and interpreting complex legal terminology requires significant experience, making legal consultation expensive and inaccessible for many.

To address these challenges, our **AI-powered Legal Analysis Platform** introduces an innovative solution that integrates **automated document summarization, contract risk assessment, case outcome prediction, and real-time AI-driven legal assistance**. Using **advanced NLP models** (Pegasus, Gemini, LLaMa, BERT, LexBERT, CaseLawBERT), the platform extracts key arguments from legal texts, generates concise case summaries, and highlights essential contract clauses while flagging potential risks. A **predictive analytics module** estimates case outcomes using historical data, offering actionable insights and strategic recommendations.

A standout feature of the platform is the **interactive legal chatbot**, which provides users with real-time assistance in understanding legal terminology, charges, and contract clauses. This chatbot simplifies legal research, offering immediate guidance without requiring extensive legal knowledge. By integrating all functionalities into a **single, user-friendly web platform**, the system enhances efficiency, minimizes manual effort, reduces legal costs, and improves decision-making. Ultimately, this AI-driven assistant bridges the gap between traditional legal expertise and modern AI-driven efficiency, making legal insights more **accessible, data-driven, and effective**.

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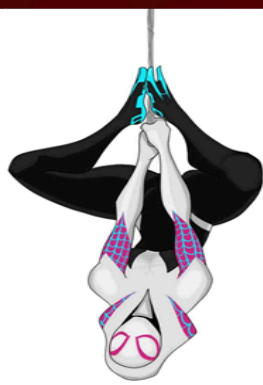
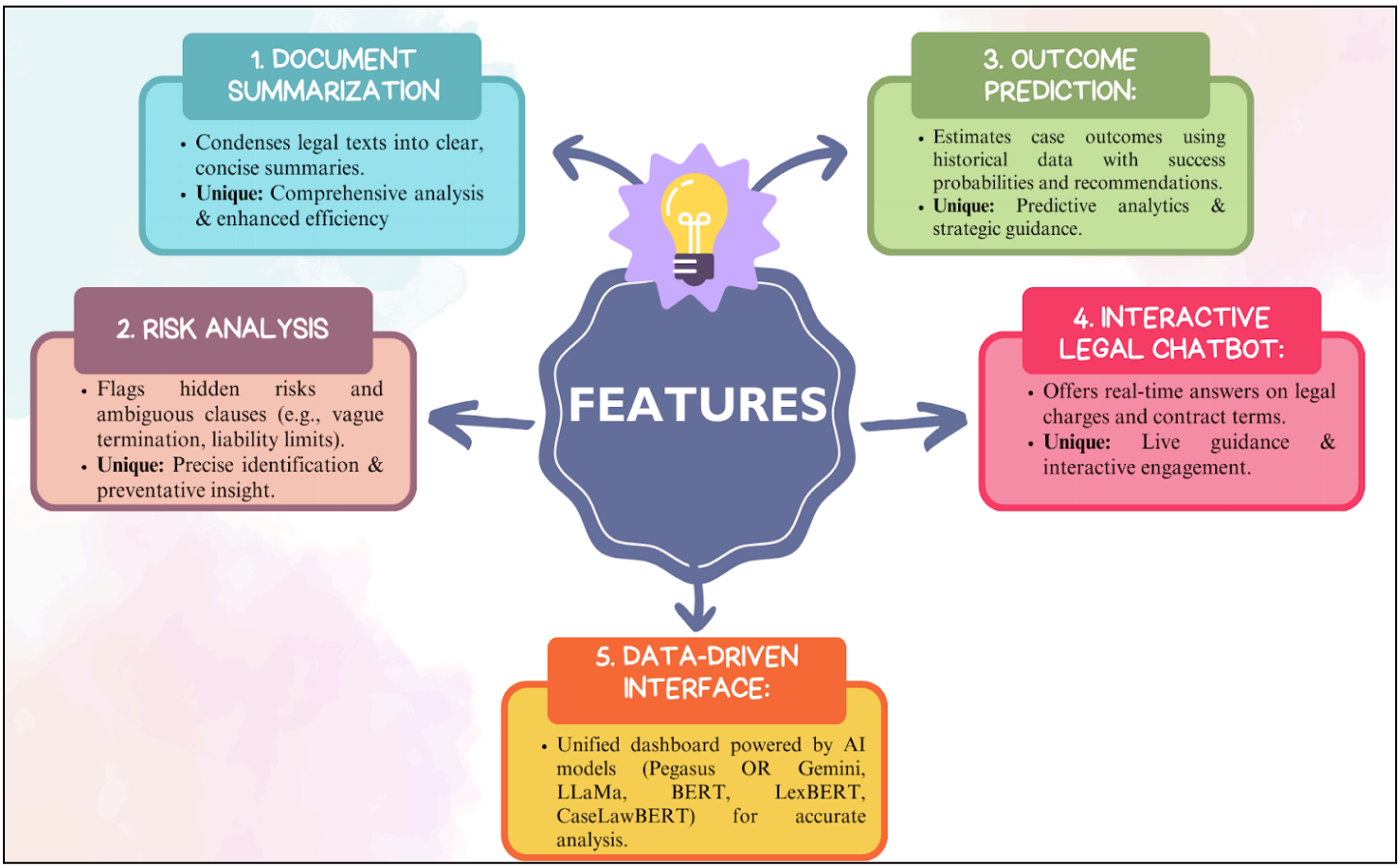


FEATURES



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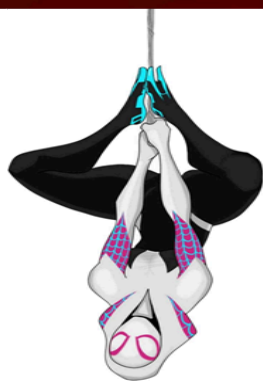
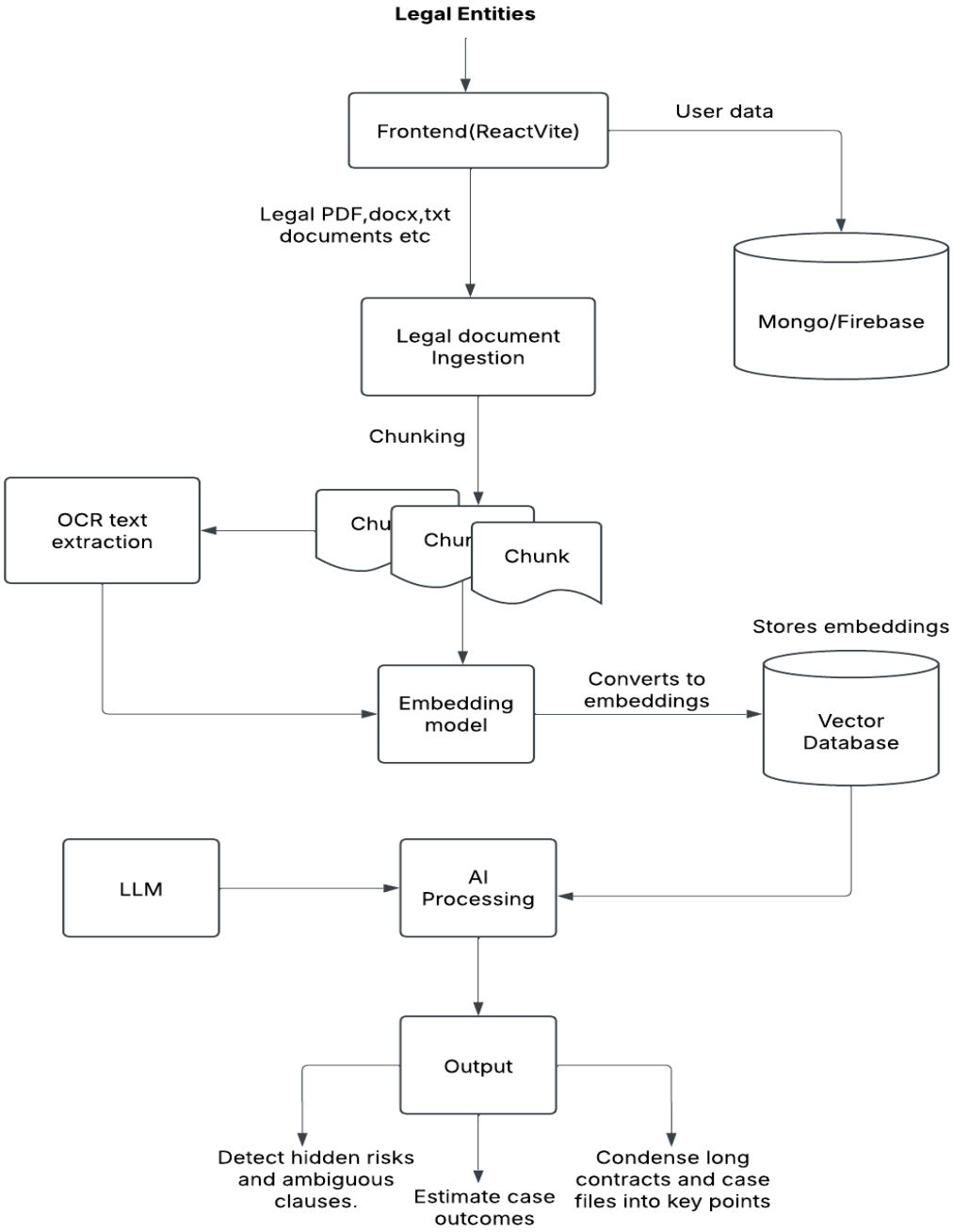
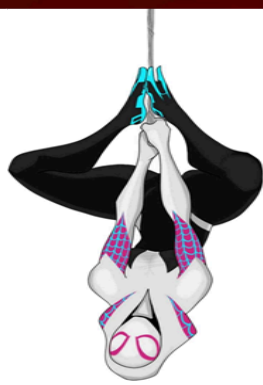


FLOWCHART





TECH STACK

1. **Frontend:** ReactVite / Streamlit
2. **Backend:** Node.js / Python (FastAPI/Django)
3. **AI Models:** Pegasus/ Gemini/ LLaMa / BERT/ LexBERT/ CaseLawBERT for legal text analysis and natural language processing.
4. **Database:** MongoDB / Firebase
5. **Cloud Services:** AWS / Render, Vercel for scalable hosting and storage.
6. **Additional Tools:** PDF parsers and OCR tools for text extraction from images and documents.