CHARUVARTHAN T

Chennai, India

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Education

B.Tech in Computer Science and Engineering (Artificial Intelligence)

Amrita School of AI, Amrita Vishwa Vidyapeetham, Coimbatore   *2023 – Expected 2027*

Technical Skills

Programming Languages: Python, C++, Java
Core CS Concepts: Data Structures & Algorithms, Operating Systems, Computer Networks, DBMS
Frameworks & Libraries: React.js, Next.js, Node.js, Flutter, TensorFlow, PyTorch
Databases: MySQL, Firestore, Neo4j
Cloud & Tools: Google Cloud Platform, Git, Docker

Projects

LegalLens | *Flutter, Python, MCP, Google Cloud Services, Blockchain*   **GitHub**
- Built **multimodal legal assistant** with **Flutter frontend** and **voice-to-voice multilingual** capabilities using **Document AI** and **Gemini API** for intelligent document analysis and term extraction.
- Architected scalable backend with **Cloud Spanner** for legal terms knowledge graphs, **AlloyDB** for Indian Corpse vector embeddings, and **Redis/Valkey caching** with **routing agent** via **MCP server** for optimal tool selection.
- Implemented enterprise security with **GCUL blockchain** for immutable document integrity, **KMS encryption** for cryptographic key management, and **IAM** for granular access control and compliance.

Raseed | *Flutter, Google Wallet API, Document AI, Places API, GCP, Gemini API*   **GitHub**
- Developed a **Flutter app** to digitize and organize receipts, warranties, and gift cards into **Google Wallet**, enhancing accessibility and traceability.
- Designed intelligent agents including a **Reminder Agent** (Google Calendar alerts), **Pass Generator**, **Knowledge Graph Builder** for financial insights, and an **EcoSpend Agent** leveraging Google ADK + Places API for sustainable purchases.

LegalSphere | *Flutter, RAG, BNS, GTranslate, DeepSeek API*   **GitHub**
- Built a **Flutter mobile app** with an AI-powered Voice based legal chatbot using **RAG** and **BNS** as the core database, offering multilingual support and simplified law explanations.
- Integrated **image analysis** for harassment evidence, and designed guided workflows for filing cases and accessing resources to enhance **women's legal accessibility** in India.

CodeProctor - Full Stack Code Evaluation System | *Next.js, TypeScript, PostgreSQL, Docker*   **GitHub**
- Built a **full-stack code evaluation platform** with authentication, role-based access, real-time code execution, and problem management.
- Integrated **Monaco Editor**, serverless PostgreSQL (Neon), and responsive UI with Tailwind + shadcn/ui; deployed via Docker with SSR optimizations.

Achievements

- Awarded Breakthrough Concept by **Google at Agentic AI Day**   **View**
  Selected as a top student team among 700 finalists from 9,100+ submissions out of 57,000+ developers.
- 3rd Place in the **Gen AI x Gender Technology Hackathon**   **View**
- Solved **1000+ Coding Problems** on LeetCode   **Profile**

Publications

- **LSTM-Driven State of Charge Estimation for Battery Management**
  2024 IEEE 11th Power India International Conference (PIICON), Jaipur, India
  DOI: 10.1109/PIICON63519.2024.10995078