

# Austin T Babu

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## Profile

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ML Engineer with hands-on experience building, fine-tuning, and deploying computer-vision and NLP models end-to-end, driving measurable impact in healthcare and research environments.

## Skills

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**Programming:** Python, C++, JavaScript, TypeScript, SQL

**AI/ML:** PyTorch, LangGraph, Langchain, MLflow, Fine-tuning, Context Engineering, RAG

**Data & Visualization:** Pandas, Plotly, Recharts

**Web Development:** React, Next.js, FastAPI

**Databases:** MongoDB, PostgreSQL, Supabase

**Cloud & DevOps:** AWS Elastic Beanstalk, AWS SageMaker, AWS S3, Google Cloud Run, Azure Databricks, Snowflake, Docker, GitHub Actions

## Experience

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### Associate Software Engineer — UVJ Technologies

Sep 2024 – Present

- Designed and trained a ConvNeXt V2 model for fatty liver detection from ultrasound images, achieving 95%+ recall across liver grades and improving diagnostic accuracy.
- Implemented data wrangling pipeline for multi-slice ultrasound inputs, enhancing feature diversity and model robustness.
- Supervised model lifecycle with MLflow and Snowflake, ensuring reproducibility and traceability.
- Developed a YOLOv8-based test tube detection system that reduced lab setup time by 75%, deploying the model on edge devices via ONNX.
- Led a team to build an agentic Scrum chatbot using LangGraph, integrating with Atlassian MCP to fetch project details and automate task status reporting.

### Data Science Intern — Kavida AI

Mar 2024 – Jul 2024

- Built a multithreaded KeyBERT keyword extractor that cut relevancy-check latency from 20s to 3s, boosting article processing throughput by 40%.
- Implemented a Langchain pipeline for commodity supply-chain risk assessment, reducing the number of articles for manual review by 80%.

## Projects

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### Rae – Agentic AI Assistant

- Built and deployed an agentic personal assistant with LangGraph, integrating speech-to-text, real-time data access, and CSV analysis.
- Packaged the solution with Docker and deployed on Google Cloud and Vercel, enabling seamless scaling.

### RxU – Drug Sentiment Dashboard

- Created a sentiment dashboard for 91 drugs using scraped Reddit data, processing 500+ posts daily with a fine-tuned roBERTa model achieving ~95% accuracy.
- Designed interactive visualizations with Recharts and automated daily updates via cron jobs, cutting manual monitoring effort by 99%.

### MyGPT – Custom LLM

- Implemented a GPT-style language model from scratch using PyTorch, training on OpenWebTextCorpus.
- Demonstrated prompt-based generation capabilities, laying groundwork for future LLM applications.

## Education

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### National Institute of Technology Calicut

Bachelor of Technology in Electronics and Communication

## Leadership

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### Assistant Club Secretary — Audio Visual Club NITC

- Oversaw execution of five major events and led a 12-person team for a large-scale online gaming tournament.
- Managed a team of 5 designers for club artwork and event marketing.