

JAKKA BALAJI MAHENDRA

AI Engineering | Machine Learning | Generative AI

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SUMMARY

Final-year B.Tech AI/ML student (GPA: 9.6/10) with hands-on experience building end-to-end machine learning and LLM-powered applications. Experience includes FastAPI, XGBoost, explainable AI, REST APIs, and Docker. Seeking AI Engineering, Machine Learning, or Generative AI internship opportunities.

TECHNICAL SKILLS

Languages: Python, JavaScript

AI / LLM: LangChain, LangGraph, RAG, AI Agents

Backend: FastAPI, Flask, Pydantic

DevOps & Tools: Docker, Git, GitHub, Streamlit, pytest, n8n

ML/Data: Scikit-learn, XGBoost, SHAP, PyTorch, Pandas, NumPy, Matplotlib

PROJECTS

AI Loan Underwriting Assistant

[Live App](#)

- Built an AI-powered underwriting system that predicts credit default risk using XGBoost (ROC-AUC ~0.76), with SHAP-based feature attribution to generate explainable predictions.
- Developed a modular FastAPI backend with Pydantic v2 validation and implemented a provider-agnostic LLM reporting pipeline with automatic fallback across Groq, Gemini, and OpenRouter to generate human-readable underwriting reports.
- Designed an end-to-end orchestration pipeline (predict → explain → report → persist), added automated pytest tests, and containerized the application with Docker for reliable deployment.

AI IPO Analysis Assistant

[Live App](#)

- Built an IPO profitability prediction system using XGBoost (CV AUC 0.804, F1 0.835) trained on 559 Indian IPOs with systematic feature engineering.
- Implemented SHAP-based explainability and a provider-agnostic LLM pipeline with automatic fallback to generate AI research reports.
- Developed a modular FastAPI application with Pydantic validation, Docker deployment, and 47 automated tests covering prediction, API, and LLM components.

PassCheck

[Github](#)

- Built a Python CLI tool for password security with breach detection using the Have I Been Pwned k-anonymity API.
- Developed a Random Forest classifier trained on 3,500 real-world passwords using 17 engineered features to estimate password strength.

CERTIFICATIONS

- Programming In Java (Top 1%, 100/100) | IIT Kharagpur, NPTEL
- CS50's Introduction to Programming with Python — Harvard / edX
- Programming, Data Structures and Algorithms using Python (Top 5%) | CMI, NPTEL
- Supervised Machine Learning: Regression and Classification | Andrew Ng, DeepLearning.AI, Coursera

EDUCATION

Joy University

B.Tech CSE(AI and ML) Overall GPA 9.6/10

Kanniyakumari, IN

Jul 2023 - May 2027