Sathvik Modhi

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Technical Skills

Programming Languages: Python, JavaScript, SQL

ML & Deep Learning: PyTorch, TensorFlow, Scikit-learn, XGBoost, CatBoost, Random Forest, YOLOv3, OpenCV

NLP & LLMs: Langchain, Sentence Transformers, vLLM, RAG Pipelines, Text Classification, Semantic Search

Data Analysis: Pandas, NumPy, Matplotlib, Seaborn, Probability & Statistics

Frameworks & Tools: Flask, FastAPI, Vue, Gradio, Kafka, Apache Spark

Deployment & MLOps: Docker, Kubernetes, MLflow, Git, CI/CD

Databases: PostgreSQL, MySQL, OpenSearch, ArangoDB, Firebase

Professional Experience

Software Engineer - AI/ML Platform — September 2022 – October 2025
LTIMindtree — *Bengaluru, India*

- Led development of **JOVI AI-Powered Chatbot** utilizing custom LLMs and Retrieval-Augmented Generation (RAG) pipeline, delivering context-aware IT support responses with microservices architecture. (**Python, Flask, Vue.js, Langchain, Sentence Transformers, Docker, Kubernetes**)
- Implemented centralized **RAG File Management Portal** with NLP embeddings for semantic search, enabling efficient project-wide document handling and retrieval across microservices. (**Python, Flask, Vue.js, OpenSearch, Docker, Kubernetes**)
- Spearheaded **Ticket Classification project** automating ITSM categorization using CatBoost classifier and NLP techniques on real-time ticket streams, reducing manual triage by **78%** with improved multi-class classification accuracy. (**Python, CatBoost, Scikit-learn, TF-IDF, Kafka, Docker, Kubernetes**)
- Developed **EDA Chatbot** translating natural language queries to SQL/AQL for automated exploratory data analysis, delivering insights via conversational AI interface. (**Python, Langchain, vLLM, ArangoDB, PostgreSQL, Docker**)

Personal Projects

Intelligent Task Load Balancer | GitHub | Live Demo

- Built ML-based system predicting developer overload risk and recommending optimal task assignments using XGBoost classifier with 21 engineered features, achieving **95% accuracy** across 3 risk categories (Green/Yellow/Red). (**Python, XGBoost, Scikit-learn, Pandas, NumPy, Matplotlib**)
- Deployed interactive Gradio interface on Hugging Face Spaces with intelligent developer recommendation engine that suggests best-fit developers for tasks based on current workload, skills, and capacity analysis. (**Python, Gradio, Pydantic, Hugging Face**)

AI-Enabled Traffic Management System | GitHub

- Developed multi-module computer vision system achieving **88.3% accuracy** for helmet detection, triple-rider identification, and license plate recognition using YOLOv3 object detection. (**Python, YOLOv3, OpenCV, TensorFlow, NumPy**)
- Implemented end-to-end pipeline with real-time video detection, OCR-based license plate extraction, automated SMS alerting, and Tkinter GUI dashboard. (**Python, OpenCV, OCR, Twilio API, Tkinter**)

Certifications

AWS Certified Developer - Associate - Amazon Web Services (March 2025)
LTIMindtree Certified ITOPS Automation Engineer - LTIMindtree (May 2023)

Education

Bachelor of Technology in Computer Science and Engineering — July 2018 – July 2022
CMR Technical Campus (Affiliated to JNTUH) — *Hyderabad, India*