Adwyte Karandikar — AI/ML · Backend Dev · Databases · Cloud

Summary

Computer Science Engineering undergraduate with hands-on experience designing AI/ML and backend systems, from LLM-based debate platforms to industrial digital-twin solutions. Skilled in Python, C++, cloud deployment, and database management, with a track record of delivering production-ready, scalable service applications.

Contact

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Professional Experience

Software Engineering Intern - HyperMinds Tech (Mar 2025 – Sep 2025):

- Engineered Python/**FastAPI backend** APIs on **AWS EC2** to support SaaS **ETL** integrations, improving reliability and simplifying user onboarding.
- Set up **Jira** project creation and real-time issue tracking for ETL failures, reducing manual ticket handling, and enabling faster response to data pipeline errors.
- Implemented **dynamic function & field mapping**, using EC2-deployed **PostgreSQL** automated with **Redis** and **Celery**.

Education

Vishwakarma Institute of Technology
BTech in Computer Science and Engineering (AI-ML)
(2023-2027) | CGPA: 8.96

Jnana Prabodhini Prashala
(2014-2021) | CBSE: 97.8%

Projects

Digital Twin Platform for Industrial Automation in MSME Sector (Industry Project - Yuga Globe Tech Pvt. Ltd.)

- Designed a retrofittable digital twin system for legacy industrial lathe machines, using **NodeMCU, IIoT sensors, MQTT**, and **MongoDB Atlas** for scalable real-time sensor data (vibration, power, temperature and RPM).
- Streamed machine metrics to backend **ML models** for failure prediction, and integrated **Unity 3D, Flask**-based web dashboards for live analytics and industrial simulation.
- Simulated a 20 machine MSME workshop, to enable predictive maintenance and reduce downtime.

LLM-Driven Real-Time Debate Arena (Industry Project – Passion Infotech)

- Built a full-stack real-time debate platform with live **speech-to-text**, **NLP parsing**, and **LLM-based argument scoring** for logic, evidence, bias and validity.
- Delivered a scalable **FastAPI + PostgreSQL backend** and **React frontend**, supporting real-time human-vs-human and human-vs-AI debates.

Legacy Code Migration Engine (Procedural C to OOP Python)

- Developed a parser tool to **convert procedural C to object-oriented Python**, generating call graphs with **NetworkX** and exposing a **C++ backend via pybind11**.
- Configured automatic AST analysis and testing for accurate code migration.

Secure Remote Media Server with Automated Indexing

- Deployed a **headless Ubuntu server** with **SSH** access, and **Plex/Jellyfin** integration for multi-device streaming.
- Added script-based media indexing and secure TCP port forwarding, to provide a remotely accessible, private media service.

Certifications

Fundamentals of Deep Learning
NVIDIA

Supervised Machine Learning: Regression and Classification
Stanford, DeepLearning.ai

Achievements

Winner – IEEE AI Agents Hackathon 2025 (out of 70+ teams)

2nd Runner Up - Uptiq x IEEE AI Innovators' Hackathon 2025 (10K cash prize + industry experience)

Finalist - National Odoo x NMIT Hackathon 2025 (Placed top 75 out of 3K+ teams)

Runner Up – MCOE HackForge 2025

Skills

Languages: Python, C++, Go, SQL
Frameworks: FastAPI, SQLAlchemy, CrewAI, LangChain, React, Next.js
Libraries: Pandas, TensorFlow, PyTorch, Pydantic, OpenCV
Databases/Cloud: PostgreSQL, Neo4j, MongoDB Atlas, AWS EC2
Tools/Infra: Docker, Git, MQTT, Redis, Celery, Jira

Research Publications (Scopus-Indexed)

- A Comparative Analysis of Machine Learning Algorithms for Weather Prediction in India – 7th ICCPCT 2024 (IEEE Digital Xplore) (2 research citations)
- Smart Retail Shelf for Inventory Management and Consumer Analytics – Hinweis RTET 2025 (Grenze International Journal of Engineering and Technology)

Extra-curriculars

Technical Lead (Cloud Computing): Microsoft Student Learn Club, VIT
AR Head – SIG RealitySpectra
Photography Coordinator – VClick (Official Photography Team - VIT)
Content Head - TEDxVITPune