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

About Me.

Computer Science Engineering undergraduate with a strong foundation in AI/ML, backend development, and real-time systems. Experienced in building scalable, real-world applications, from LLM-based debate engines and media automation servers to Digital Twin platforms for industries.

Strong experience in Python, C++, Databases, APIs, and DevOps concepts. Passionate about building practical and scalable AI-enabled solutions.

Professional Experience

Software Engineering Intern - *HyperMinds Tech* (3/2025 – Present):

Built RESTful APIs for ETL pipelines, integrated SaaS workflows and Jira services, using AWS EC2-hosted PostgreSQL, as part of the backend development team.

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, deployed using NodeMCU, IIoT sensors, and MQTT.
- Used MongoDB Atlas for scalable sensor data storage and streamed real-time machine sensor data (vibration, RPM, power) to backend ML models for failure prediction and anomaly detection.
- Integrated Unity 3D twins and a web dashboard for analytics, monitoring, alerts, and performance optimization.
- 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 platform for structured real-time debates (Human vs Human / Human vs AI) with AI argument analysis.
- Integrated live speech-to-text, NLP parsing, and LLM-driven scoring to evaluate arguments based on logic, bias and validity.
- Designed a scalable backend using FastAPI for session management, maintained leaderboards and debate records using PostgreSQL, and delivered a clean and interactive UI using React, to enable real-time AI-driven intelligent debates.

Legacy Code Migration Tool (Procedural C to OOP Python)

- Built a modular tool to parse legacy C code using regex and cparser, extracting structs and function calls.
- Constructed call graphs using NetworkX, visualized with matplotlib, and exported as JSON for analysis.
- Translated procedural code into object-oriented Python using graph logic and code templates.
- Exposed the C++ backend via pybind11, with auto-tests validating code migration accuracy.

Home Media Server Automation: Deployed a headless Ubuntu server with SSH access, Plex/Jellyfin integration, and local media indexing for remote multi-device streaming.

Contact

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Education

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

CGPA:-
First Year: 9.08
Second Year: 8.96

Jnana Prabodhini Prashala
2014-2021 - CBSE: 97.8%

Certifications

Fundamentals of Deep Learning
NVIDIA

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

Achievements

- **Winner** of the IEEE AI Agents Hackathon organized at VIT Pune
- **2nd Runner Up** in the Uptiq x IEEE AI Innovators' Hackathon 2025
- **Runner Up** in the 2024 Hackforge IOT Hackathon at MCOE Pune.
- Presented and published research papers for two projects in IEEE SCOPUS-indexed conferences at ICCPCT 2024, ICSTCE 2024 and RTET 2024.

Skills

Languages: Python, C++, Java, SQL
Frameworks: FastAPI, SQLAlchemy, CrewAI, LangChain, React
Libraries: Pandas, TensorFlow, Pydantic, OpenCV
Databases/Cloud: PostgreSQL, SQLite, MongoDB, Amazon AWS EC2
Tools: Docker, Git, MQTT, REST APIs

Extra-curriculars

- **Photography:** Working as a part of the photography club in college, as well as freelance photoshoots.
- **Web Content Writing:** Crafting social media and newsletter content as part of the TEDxVITPune Team.