Vaishnav Mukund Mankar

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SUMMARY

Computer Engineering student (PICT, 2027) with hands-on experience in backend development, AI systems, and performance optimization. Built scalable cloud-based pipelines and real-time applications using Python, FastAPI, AWS, and modern AI frameworks. Strong foundation in data structures, system design, and problem solving.

EDUCATION

Pune Institute of Computer Technology (PICT) — Pune, India
*B.E. Computer Engineering; **CGPA: 9.2*** — *2023 – 2027*

Global Public School — Nashik, India
*Class XII; **Score: 80%*** — *2023*

Ryan International School — Nashik, India
*Class X; **Score: 90%*** — *2021*

EXPERIENCE

AI Developer Intern — Aug 2025 – Present
Across The Globe — *Remote*

- Contributed to backend components of an AI-driven educational content generation pipeline producing personalized multi-language video content.
- Optimized AWS Lambda execution time from ∼20 minutes to ∼14 minutes (∼30% improvement), improving system efficiency and reducing compute cost.
- Developed internal automation tools including Markdown-to-PDF conversion and architecture diagram generation workflows.
- Assisted in building a document-grounded RAG system for answering internal queries and generating explanatory summaries.

PROJECTS

Nao Medical Translator | *Python, FastAPI, WebSockets, Gemini, Whisper, React*

- Built a real-time bilingual communication platform enabling live translation between doctor and patient using LLM-based translation and speech-to-text.
- Implemented WebSocket-based architecture for low-latency communication.
- Designed AI-based structured medical summary generation from consultation transcripts.

Intelligent Digital Asset Management System | *Python, FastAPI, PostgreSQL*

- Developed AI-driven image tagging and text-to-SQL search system enabling natural language queries on unstructured **images**.
- Optimized database queries for efficient semantic retrieval across large datasets.

AI Architecture Diagram Generator | *Python, LangChain, Rust*

- Built automated system design diagram generator using structured LLM outputs.
- Reduced manual diagram creation effort through automated rendering workflows.

PUBLICATIONS

GNN-Based Friend Recommendation: A Graph Embedding Approach for Social Networks

- Accepted for Conference Presentation.
- Compared supervised MLP and retrieval-based friend recommendation systems.
- Demonstrated scalability benefits of ANN-indexed retrieval while maintaining competitive accuracy.
- Designed graph embedding workflows for large-scale social network datasets.

TECHNICAL SKILLS

Languages: Python, Rust, SQL, TypeScript, JavaScript
Frameworks: FastAPI, Flask, React, LangChain
Cloud & Tools: AWS (Lambda), Docker, Git, Linux, PostgreSQL
Concepts: Data Structures & Algorithms, OOPS, DBMS, Operating Systems, Computer Networks