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Portfolio: saumikportfolio-nine.vercel.app



Profile Summary

AI Engineer with strong expertise in GenAI, prompt engineering, LLM workflows, Python development, and ML systems. Experienced in simplifying complex technical concepts, building educational AI tools, and designing clear, structured workflows. Skilled in research, communication, and presenting AI-driven ideas with clarity and impact. Passionate about creating learning-centric digital solutions aligned with responsible AI principles.

Core Skills

GenAI & LLM Engineering: Prompt Crafting, RAG, Reasoning Optimization, Responsible AI

AI/ML: Transformers, DL Models, XAI, Embeddings, Evaluation Pipelines

Python Development: FastAPI, Automation, Data Pipelines, Backend APIs

Educational Tools: Concept Simplification, Structured Explanations, Visual Learning Design

Communication: Presentation Skills, Documentation, Research Writing

Cybersecurity ML: Anomaly Detection, Malware Analysis, Packet Inspection

Tools: Git, PostgreSQL, HuggingFace, LangChain, FAISS

Languages: Python, Java, SQL

Experience

AI/ML Intern — Nirveon X Omnicare Pvt. Ltd.

Feb 2025 – Sep 2025

- Engineered structured prompt workflows for clinical decision support, improving reasoning clarity and reliability.
- Developed FastAPI-based microservices enabling secure and efficient AI-driven educational modules.
- Optimized RAG pipelines, reducing retrieval errors and improving factual stability by **19%**.

AI Research Intern — Finessefleet Foundation

Jan 2025 – Jul 2025

- Built multilingual reasoning prompts for complex academic domains, simplifying dense content for learners.
- Applied XAI methods to validate conceptual clarity, improving explanation alignment by **14%**.
- Conducted research on long-context learning, knowledge routing, and structured content generation.

Key Projects

- Generative LLM Workflow Engine** — Designed multi-step reasoning flows, knowledge graphs, and automated task orchestration for educational and enterprise use cases.
- RAG Conversational Learning Assistant** — Built a retrieval-based chatbot enabling simplified explanations, concept reinforcement, and multi-turn understanding for learners.
- AI Breakup Agent (Mental Health Support)** — Developed an empathetic agent with sentiment analysis, adaptive prompting, and safe response structures.
- Network Traffic Analysis (ML)** — Created ML models for anomaly detection and cybersecurity education using PyShark/Scapy-based datasets.
- Malware Detection System** — Built an opcode-level ML classifier with behavior signatures and explainable visualization for teaching cybersecurity concepts.
- Face Recognition + Identity Reasoning System** — Integrated FaceNet embeddings with LLM-based reasoning achieving **95% accuracy**.

Certifications

Amazon ML Summer School — Microsoft AI-900 — Google Data Analytics
AWS GenAI — AWS NLP — Oracle Cloud HCM Essentials
Tata & PwC Virtual Data Internships

Achievements

- 2nd Runner-Up** — Infosys Global Hackathon 2025 (Hyderabad Grand Finale)
- Finalist** — Hack4Bihar National Innovation Challenge 2025