Omkar Joshi

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Education

Pune Institute of Computer Technology 2023 – 2027
B.E. Electronics and Telecommunication CGPA: 8.88 / 10

Experience

Froncort AI – AI Engineer Intern Apr 2026 – Aug 2026

- Architected an agentic data-analysis pipeline (**FastAPI**, **LangGraph**, **Vertex AI Gemini**) that eliminates hand-written parsers by having an LLM generate and **self-repair** its own data-cleaning and analysis code, executed in a sandboxed **Docker** environment.
- Built a hybrid deterministic-LLM system computing **154 domain-specific KPIs**: deterministic builder functions hold ground-truth formulas while Gemini generates thin **orchestration** code, reducing hallucination risk versus pure LLM-driven analysis.
- Shipped to production on **GCP** (**PostgreSQL** + **GCS**) serving real-time **SSE-streamed** analytical chat with sliding-window conversational memory, deployed via a staging → demo CI pipeline.

Persistent Systems – Gen AI Intern Aug 2025 – Nov 2025

- Designed a Windows AI Foundry **RAG** system implementing **query rewriting**, **HyDE**, and cross-encoder **reranking** with citation-constrained generation, using **LangChain** for document parsing and retrieval.
- Ran a structured A/B evaluation (fixed prompt taxonomy, 0–5 relevance/faithfulness rubrics) measuring **+61% relevance** and an **83% relative reduction** in hallucination rate with query rewriting enabled.

Agentic AI Web Application Pentester – PICT Pune Feb 2026 – March 2026

- Developed an **agentic AI web application pentester** (**LangGraph**, **FastAPI**) capable of autonomously scanning web applications and identifying vulnerabilities.
- Implemented AI reasoning workflows to simulate penetration testing strategies and dynamically generate attack vectors.
- Built automated vulnerability detection pipelines with monitoring and alerting mechanisms.
- Generated structured vulnerability reports with remediation insights.

Projects

JobDigest – Automated Job Discovery & Scoring Pipeline GitHub

GitHub Actions, Neon Postgres, OpenRouter, Scrapling/Playwright, Telegram Bot API

- Built a multi-lane collection pipeline (ATS APIs, RSS, and browser-based portal scraping) feeding deterministic hard-filters and **LLM-based scoring** (OpenRouter), running on a **cron-gated GitHub Actions** workflow with dual SQLite/**Neon Postgres** backends.
- Built a stateful **Telegram bot** worker with interactive callback-driven actions (save, apply, hide, mail-draft) and URL-dedup across sources, validated by an **offline pytest suite** (mocked HTTP, injected LLM, fake Telegram) run in CI on every push.

SQL Injection Detection & Prevention Pipeline GitHub

AWS (CloudFront, WAF, ECS, RDS, Lambda, CloudWatch, SNS)

- Designed a cloud-native, real-time SQLi detection pipeline on **AWS** combining edge-level **WAF** filtering with backend SQL visibility, closing the gap where traditional WAFs cannot see queries that already reached the database.
- Built an **AWS Lambda** detection engine parsing **RDS** query logs via **CloudWatch**, using rule-based pattern matching (UNION-based, boolean-based, comment injection) combined with entropy-based anomaly scoring to catch attacks that bypass signature filters.
- Deployed **OWASP Juice Shop** on **ECS** behind **CloudFront** as a live target to validate detection end-to-end, with real-time alerting via **SNS** on confirmed threats.

Technical Skills

Gen AI: LangChain, LangGraph, n8n, Prompt Engineering
Languages: Python, C++, JavaScript
Core Subjects: Data Structures and Algorithms, Computer Networks, Object-Oriented Programming
Databases: MongoDB, MySQL, PostgreSQL, Redis, Pinecone, ChromaDB
Cloud: AWS, Azure, Vertex AI

Extra-Curricular

Escort Team Lead, InC Technical Flagship Event (2024) — Coordinated logistics and scheduling for **50+ students** and **30+ judges**, ensuring smooth execution of the event.
Technical Head, PICT Cybercell — Managed all **technical operations and infrastructure** related to the club including platforms, tools, and technical initiatives.
Competitive Speedcuber, World Cube Association — Competed in **4 WCA-sanctioned competitions**. ID: 2019JOSH02