Shantanu Awate

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Portfolio: shantanu-00.github.io · GitHub: github.com/Shantanu-00 · LinkedIn: linkedin.com/in/shantanuawate

PROFESSIONAL SUMMARY

I'm Builder-minded software engineer who thrives in open-ended problems, turning messy real-world workflows into simple, usable systems. Experienced through hackathons and independent projects, with a strong bias toward fast execution, real users, and clear outcomes.

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, SQL **AI & Data**: Gemini (2.5 Flash, Nano), Scikit-learn, NumPy, Pandas, Genetic Algorithms, 2-Opt Heuristics **Cloud & DevOps**: AWS Lambda, Step functions, EventBridge, DynamoDB, Docker, Git, GitHub, Linux **Frameworks & Frontend**: FastAPI, Next.js, React, Node.js, Express.js, Tailwind, OSRM, Leaflet

SELECTED PROJECTS

Darwinian Agent Engine | Winner, AWS Global Hackathon 2025

AWS Bedrock Step Functions · Lambda · EventBridge · DynamoDB
Demo: Youtube Video | GitHub: github.com/Shantanu-00/Codex-Vitae

- Engineered a self-healing AI infrastructure where **agents** automatically detect failures, **mutate** their own logic, and **redeploy** without human intervention.
- Migrated a fragile **GCP** monolith to a fully **serverless AWS architecture**, decoupling the "Live Loop" (User Chat) from the "Evolution Loop" (Model Training) using **EventBridge**.
- Built a **custom version control system** (lineage trees, rollback, commit messages) for AI prompts using DynamoDB, enabling "zero-downtime" evolution of live agents.

Crucible — On-Device AI Personalization Engine

Google Chrome Built-in AI Challenge 2025 · Gemini Nano · Chrome (Manifest V3) · IndexedDB
GitHub*: github.com/Shantanu-00/crucible-chrome-extension

- Engineered a **privacy-first** Chrome extension using **Gemini Nano** to run all AI processing and user profiling entirely **on-device**, ensuring zero data leaves the user's machine.
- **Architected a sophisticated client-side profiling** pipeline that synthesizes raw browsing behavior (scroll, time, search intent) into a stable **Long-Term Profile (LTP).**
- **Applied statistical models**, including **Exponential Decay** and **EWMA** (Exponentially Weighted Moving Average), to algorithmically model the evolution of user interests in real-time.

PathSense — AI Route Optimization Web App

Next.js frontend · FastAPI backend · OSRM/OSM routing · Docker
Live Demo: v0-path-sense.vercel.app | GitHub: github.com/Shantanu-00/PathSense

- Built end-to-end pipeline: natural-language intent → geocoding → OSRM distance matrix → optimization, reducing route distances by up to **35%** vs. naïve ordering.
- Implemented **3 optimization** methods (Nearest Neighbor, **2-Opt, Genetic Algorithm**) and features: fixed start/end, return-to-origin, interactive route editing.
- Minimized paid API reliance with **Dockerized local OSRM server** + public fallback endpoints; integrated Leaflet for interactive visualization.

LEADERSHIP & INITIATIVES

Cybersecurity Lead — Google Developer Student Club (GDSC)

- Led a team of 4; organized workshops for 50+ students on secure coding and ethical hacking; mentored juniors.

EDUCATION

B.E., Computer Science & Engineering (2021–2025)
Shrimati Kashibai Navale College of Engineering, Pune (CGPA: 8.61/10)