Arihanth Sharma

arihanthsharma10@gmail.com | +91 93193 34144 | Bengaluru | arihanthsharma15 | LinkedIn

Skills

Languages: Python, SQL, Java, JavaScript
Frontend: React, Tailwind CSS, Chart.js
Backend: FastAPI, REST APIs, JWT, RBAC, Swagger (OpenAPI), AsyncIO, Pydantic, BackgroundTasks
Databases: PostgreSQL, Supabase (RLS), Redis, ChromaDB
Tools & Platforms: Docker, Git, Linux (Bash/Shell), Streamlit Cloud, Railway
AI/LLM: RAG, Vector Embeddings, Prompt Engineering, Groq API, Ollama APIs

Projects

SOAPify — AI Clinical SOAP Notes Generator | *FastAPI, RAG, Docker*
Live Demo | GitHub *Nov 2025*

- **Modular Monolith Architecture:** Designed a production-oriented FastAPI backend separating Auth, Notes, RAG, and LLM modules to support scalable multi-doctor workflows and domain isolation.
- **Async RAG Pipeline:** Engineered a non-blocking SOAP generation pipeline using BackgroundTasks, successfully processing 20+ clinical transcripts with concurrent multi-doctor requests without UI blocking.
- **Clinical Efficiency Impact:** Reduced clinical documentation time by **90%**, generating structured SOAP notes in **˜2 seconds** compared to manual note writing (12 minutes per patient).
- **Data Security & Isolation:** Enforced strict doctor-scoped vector retrieval preventing cross-user patient data leakage across **7 active doctor contexts**.
- **Clinical Integrity Guardrails:** Implemented SOAP validation layers achieving **95%+ structured output correctness** while preventing hallucinated vitals or invented diagnoses.
- **Infrastructure Deployment:** Deployed backend and frontend services supporting stable concurrent SOAP generation in production-like environments.

Aegis — Production API Security Middleware & Live Threat Analytics | *FastAPI, Python, Redis, Railway, Chart.js*
Live Dashboard | GitHub *Feb 2026*

- Built and deployed a Redis-backed sliding-window rate limiter that protected production APIs under burst traffic of **120 simulated requests/run**, blocking **25 requests (20.83%)** with **0 errors**.
- Maintained successful-request latency at **1004.8–1364.4 ms**, while blocked traffic returned in **9.5–30.4 ms** (avg **16.6 ms**), demonstrating low-cost rejection of abusive requests.
- Achieved a measured success/block split of **79.17% / 20.83%** at **20 concurrent clients**, validating end-to-end throttling behavior under high-concurrency attack simulation.
- Built a live security dashboard with persistent Redis history (up to **10,080 minutes / 7 days**) showing requests/min, blocked/min, rate-limit hits, attack outcomes, and Redis/FastAPI runtime metrics.
- Automated synthetic attack traffic using Railway Cron so the public dashboard continuously shows fresh, measurable defense telemetry without manual local execution.

Nefera — Mental Health Assessment Platform | *Supabase, PostgreSQL, RBAC*
GitHub *Feb 2026*

- **Multi-Tenant Security:** Built secure multi-role backend using **Supabase Row-Level Security (RLS)** to enforce strict data isolation.
- **Clinical Scoring Engine:** Implemented automated PHQ-9 and GAD-7 scoring with real-time risk alerts for counselors.
- **RBAC Enforcement:** Implemented JWT-based role permissions ensuring privacy-compliant access control.

Education

Sir M. Visvesvaraya Institute of Technology, Bengaluru
B.E. in Information Science and Engineering (CGPA: 7.7/10)
Relevant Coursework: Operating Systems, Computer Networks, DBMS, OOP, Data Structures & Algorithms *2023 – 2027*

Achievements

- **Data Structures & Algorithms:** Solved 110+ problems on LeetCode.
- **NCC 'A' Certificate:** Completed Combined Annual Training Camp (2018) with Unit Commendation.