MOULI SAI SANTHOSH SOORAJ MAKALA

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EDUCATION

SRM University, AP **Aug 2024 – May 2028**

Bachelor of Technology in Computer Science & Engineering ***(CGPA: 9.08 / 10.0)*** *Amaravati, India*

TECHNICAL SKILLS

Languages: C++, C, Python, Go, TypeScript, JavaScript, SQL, POSIX Shell

Core CS: Data Structures & Algorithms, Graph Theory, Combinatorial Optimization, OOP, Complexity

Frameworks & Libs: Qiskit, Open Quantum Safe (liboqs), FastAPI, React, Next.js, Node.js, NumPy, PyTorch, Tailwind CSS

Developer Tools: Git, Linux (Arch/Hyprland, CLI), Docker, GDB, Postman, Make/CMake

EXPERIENCE

Summer Research Intern (CSE Dept) • SRM University, AP **May 2026 – Jul 2026**

- Architected **AQPQC Selector**, an adaptive algorithmic pipeline recommending optimal Post-Quantum Cryptographic primitives per hardware profile.
- Benchmarked NIST standards (ML-KEM, ML-DSA, SLH-DSA) via C-based `liboqs` on ARM and x86-64 Linux, profiling latency and memory overhead.
- Trained resource-constrained classifiers (XGBoost, Random Forest) achieving **>96% recommendation accuracy** with **<2ms inference**.

PROJECTS

Spotify Roaster • Next.js, Tailwind CSS, Spotify Web API, Gemini AI, OAuth 2.0 **Oct 2026**

- Architected fullstack web app analyzing user listening habits via Spotify OAuth backend token exchange with zero client secret exposure.
- Implemented concurrent API fetching using Promise.all across tracks, artists, and acoustic features, slashing data ingestion to <350ms.
- Built automated AI roast generation pipeline paired with dynamic Social Card preview generation using Next.js @vercel/og for viral sharing.

Amphan – Quantum Evacuation Route Optimization • Python, Qiskit, FastAPI, React **Sep 2026**

- Formulated road network evacuation routing as a QUBO graph problem, implementing QAOA variational circuits in Qiskit under capacity bottlenecks.
- Streamed real-time optimized evacuation route outputs via FastAPI to a responsive interactive React/Leaflet geospatial visualization map.

Multimodal RFMNN – Reflex Fuzzy Min-Max Classifier • Python, NumPy **Oct 2026**

- Engineered continuous-learning classifier utilizing N-dimensional hyperbox geometry with dynamic contraction, **cutting memory footprint by 40%**.
- Outperformed standard MLP neural baselines across 5 diverse multimodal benchmark datasets in streaming classification accuracy.

Laya File Organizer • Python, Machine Learning, Systems, Local-First AI **Oct 2026**

- Engineered a sub-35ms local file classifier and desktop organizer using non-autoregressive decision heuristics to sort directory downloads.
- Eliminated cloud API dependencies and network latency, achieving 100% offline data privacy with filesystem transaction rollback safety.

Agent Setup CLI • Bash, POSIX Shell, Linux, DevOps, Systems Automation **Oct 2026**

- Created a zero-dependency, idempotent developer environment bootstrap CLI cutting fresh machine setup from 4 hours to **<40 seconds**.
- Implemented non-destructive pre-flight environment probing that verifies existing toolchains before link creation.

ACHIEVEMENTS & COMPETITIONS

- **Competitive Programming:** Active on LeetCode and Codeforces focusing on graphs, dynamic programming, segment trees, and bit manipulation.
- **Hackathons:** Built quantum graph models at SRM Quantum Hackathon and microservice anomaly detection engines at National Hackathon Mumbai.
- **Open Source:** Author and maintainer of open-source developer tooling and systems utilities on GitHub (github.com/whysooraj).