

GANGA RAMESH

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Education

Amrita Vishwa Vidyapeetham, Coimbatore <i>B.Tech in Computer Science and Engineering</i>	Sep 2022 – Jun 2026 <i>CGPA: 8.64</i>
Chandrakanthi Public School (CBSE), Coimbatore <i>Higher Secondary Education (Class XII)</i> <i>Secondary Education (Class X)</i>	Jun 2020 – Jun 2022 <i>93.2%</i> <i>91%</i>

Experience

Specialized Industrial Services Co. LTD. (SISCO) Jubail, Saudi Arabia	Apr 2025 – Jun 2025
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- Engineered Python automation for **50+** servers to collect performance metrics, reducing manual monitoring by **40%**; optimized AWS configs and failover to lift availability **15%**; built Grafana+Prometheus dashboards that cut incident response time **25%**.

Research Experience

Deep Learning for Adaptive Encryption in Edge Systems	<i>Amrita University</i>
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- Implemented lightweight **ASCON** and **GIFT** encryption to resist differential, integral, and cube attacks; designed a real-time **RNN**-based adaptive security model on **Raspberry Pi**.

Selected Projects

minisqlpp-compiler — Compact SQL-Subset Compiler

- Table-driven scanner + **LL(1)** parser; **AST** with attribute-grammar type checking and catalog resolution; CSV interpreter + Oracle SQL emitter; CLI with tests and CI.

Sony-SSUP Embedded Development (SONY FUNDED PROJECT)

- Smart-agri CPS on **Sony Spresense** with **Daisy Seed**; multitasking sensor pipeline (mutexed queues) for robust real-time I/O, Project is driven by ESP-32, GSM, PI...

AutoTunerRL++ — RL + DP Kernel Auto-Tuner

- DP-augmented **RL** auto-tuner for **OpenCL** ML kernels (GEMM/FFT/reduce/conv) using **C++17/CMake/TorchRL** + OpenCL events/linux perf; ~2–3× over naive on POCL/MKL; productionized with **FastAPI, PostgreSQL/Redis, Docker**, cached best configs & metrics.

Certifications & Workshops

- AI & ML** — IIT Madras (onsite), Jan 2025 | **IoT Automation with Raspberry Pi** — IIT Madras (onsite), Jan 2025
- AWS Academy Graduate — Cloud Foundations**, Aug 2025 | **AWS Academy Graduate — Data Engineering**, Aug 2025
- AWS Academy Machine Learning for Natural Language Processing**

Technical Stack

- Languages:** Python, Java (21), C, C++, SQL, OpenCL, HTML, PHP
- ML/AI:** PyTorch, TorchRL, RNNs, Machine Learning
- Backend & APIs:** FastAPI, REST APIs
- Data & Caching:** PostgreSQL, MySQL, Redis
- Systems/Embedded:** FreeRTOS, Raspberry Pi, Sony Spresense, Daisy Seed, Linux perf
- DevOps/Build:** Docker, GitHub Actions, CMake, Maven, JUnit, CI/CD
- Cloud/Monitoring:** AWS, Prometheus, Grafana
- Security/Crypto:** ASCON, GIFT, Encryption for Edge
- Core CS:** Data Structures & Algorithms (DSA), Design & Analysis of Algorithms (DAA), Object-Oriented Programming (OOP)