

RAKSHITH S

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EXPERIENCE

Siemens Healthineers

Bangalore, India

Software Engineer 1

July 2023 – Present

- **Developed high-performance distributed services** in **C++** and **Go**; optimized concurrency and memory usage to reduce service latency by **25%**.
- **Orchestrated resilience patterns** like circuit breakers and retries, ensuring consistent system availability and data integrity under high load.
- **Enhanced system observability** with distributed tracing and built internal CLI tools to automate diagnostics, improving engineering velocity.
- **Engineered next-gen Control/Data Plane software** in **C/C++** for IIoT platforms; optimized **BSPs** and kernel modules to reduce latency by **25%**.
- **Implemented L2/L3 networking protocols** and device drivers for specialized hardware; ensured 99.99% reliability and secure boot for industrial systems.
- **Integrated object storage (AWS S3/Azure Blob)** with multipart uploads and checksum validation; increased sustained ingest throughput by **35%** and reduced transfer errors by **50%**.
- **Implemented idempotent ingestion handlers** with **retries/backoff** and deduplication keys to ensure reliable processing under failures; lowered duplicate processing by **90%** and improved recovery robustness.

Siemens Healthineers

Bangalore, India

Software Engineer Intern

February 2023 – July 2023

- Developed **REST APIs** and data models (C#) with **MySQL/Redis**; contributed to ingestion/validation modules and unit/integration tests.
- Automated developer workflows and CI tasks; participated in **code/design reviews**; achieved **60%** process time savings and **mentored** interns; adhered to **Agile** methodology.

SKILLS

Languages: C, C++, Python, Golang, Bash, Shell, SQL, C#, Java

IIoT & Networking: Control/Data Plane, BSP, Device Drivers, Kernel Modules, L2/L3 Protocols, RTOS, PCIe, I2C, SPI

Core Systems: Industrial Networking, Switching, Routing, Linux/Unix, Distributed Systems, High-Availability

Analysis & Dev: Performance Optimization, Real-time Systems, Traffic Analyzers (IXIA/Sniffer), Debugging, Secure Coding

Tools & Practices: Git, CI/CD, Agile/Scrum, Docker, Kubernetes, AWS/Azure, AI-Assisted Development

PROJECTS

Low-Latency Networking Engine ([Repo](#)) | C++, Linux, Multithreading

- Engineered a high-performance networking engine in **C++** using **lock-free data structures** and custom memory management; achieved sub-millisecond execution times.
- Devised **multithreaded** architecture for concurrent order processing; optimized for resource-constrained environments and integrated resilient network I/O with hardware-adjacent retry policies.

Secure Embedded Storage & Firmware Utility ([Repo](#)) | C/C++, Secure Coding, AES

- Built a secure storage module for embedded systems using **AES-256** encryption and block-level deduplication; applied **secure coding** principles to ensure data integrity for specialized hardware.
- Crafted modular key management and refined byte-level I/O performance for high-throughput, resource-constrained industrial storage operations.

Industrial Code Analysis Tool ([Live](#) | [Repo](#)) | AI, ML, 3D Visualization

- Created an AI-powered platform that predicts risks, detects technical debt, and visualizes dependencies in large-scale networking codebases; implemented ML-based hotspot prediction.
- Developed pipelines for repository analysis; contributed to **architecture/design reviews**; delivered dashboards to guide refactoring and evaluation of IIoT software components.

EDUCATION

National Institute of Engineering

Mysore, India

B.E in Electronics and Communication Engineering

August 2019 – July 2023

- Coursework: Computer Networks, Computer Architecture, DBMS, Big Data, Machine Learning, DSA, REST API.
- Language fluency: Kannada, English, Hindi.

CO-CURRICULARS

Xstasis Dance Group: Siemens Healthineers. | **Project Head:** UCSP Research Group, NIE. | **Marketing Head:** Onyx E-Cell, NIE.