

# RAKSHITH S

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## EXPERIENCE

### Siemens Healthineers

Software Engineer 1

Bangalore, India

July 2023 – Present

- **Architected and optimized high-throughput distributed services** (C++/Go) handling TBs of streaming data; engineered custom memory allocators and lock-free structures to reduce latency by **40%**.
- **Implemented robust fault-tolerance mechanisms** including circuit breakers, exponential backoff, and idempotent consumers, ensuring **99.99%** system availability in distributed pipelines.
- **Designed scalable ingestion pipelines** and storage layers; optimized I/O patterns for throughput and implemented data validation frameworks for large-scale datasets using reactive patterns.
- **Enhanced system observability** with distributed tracing and structured logging; developed internal CLI tools for cluster management and automated recovery, improving engineering velocity.
- **Orchestrated containerized microservices deployments** on Linux/Azure and drove Agile delivery.

### Siemens Healthineers

Software Engineer Intern

Bangalore, India

February 2023 – July 2023

- Implemented **REST APIs** and data models in C#; contributed to ingestion/validation modules and unit/integration tests.
- Automated developer workflows and CI tasks; participated in **synchronous code/design reviews**, improving maintainability and on-time delivery; achieved **60%** process time savings.

### Beneath-a-Tree

Techno-Managerial STEM Internship

India

February 2022 – March 2022

- As a team of 4 STEM Trainers in Rural Gujarat for the STEM for Girls initiative, sparking interest in science and research. Planned events, communicated interculturally, and managed resources, logistics and execution.

## SKILLS

**Languages:** C++, Golang, C#, Python, SQL, Bash, PowerShell, C, Java

**Distributed Systems:** Consistency Models, Sharding, Replication, Consensus Protocols, Fault Tolerance, Microservices

**Storage & Data:** File Systems (NFS/SMB), Object Storage, Deduplication, Data Protection, PostgreSQL, Redis

**High Performance:** Multithreading, Lock-free Data Structures, Async I/O, Memory Management, Profiling

**Cloud & Tools:** Docker, Kubernetes, AWS/Azure, CI/CD, Linux/Windows, Agile/SDLC, System Design

## PROJECTS

### High-Frequency Order Matching Engine ([Github](#)) | C++, Docker, AWS

- Engineered a low-latency trading engine in **C++** using **lock-free data structures** and custom memory management to minimize GC pauses; achieved sub-millisecond execution times.
- Designed **multithreaded** architecture for concurrent order processing; containerized with Docker for scalable deployment and implemented resilient network I/O with retry policies.

### Secure Distributed Storage Utility ([Github](#)) | C++, Python, AES

- Built a secure file storage utility incorporating **AES-256** encryption and block-level deduplication; implemented chunked file processing for handling large datasets efficiently.
- Designed modular key management and robust error handling for data integrity; optimized byte-level I/O performance for high-throughput file operations.

### EchoLens – Code Analysis Tool ([Live](#) | [Github](#)) | AI, ML, 3D Visualization

- Created an AI-powered platform that predicts risks, detects technical debt, and visualizes dependencies; implemented ML-based hotspot prediction and semantic commit analysis.
- Developed pipelines for repository analysis; contributed to **architecture/design reviews**; delivered dashboards to guide refactoring and evaluation workflows.

## EDUCATION

### National Institute of Engineering

B.E in Electronics and Communication Engineering

Mysore, India

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.