

Sahil Sharma

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Systems engineer with experience in distributed systems, storage, and filesystem-level encryption. Worked on Redis-derived systems, replication workflows, and failure handling under real-world production conditions. Strong background in C and Python with a focus on debugging, correctness, and reliability in distributed environments.

Professional Experience

Software Engineer - Encryption, Distributed systems

May 2025 – Present

Coriolis Technologies Pvt. Ltd. (Contractor at Thales DIS)

- Working on the control plane of a distributed encryption product, focusing on messaging, replication flows, and resilience under network failures.
- Debugged and modified an internal Redis fork to improve stability under crash loops, network partitions, and race conditions in multi-node deployments, reducing recurring production failures.
- Collaborated with Thales DIS engineering teams to debug reliability issues in distributed encryption pipelines.

MTS Intern → QA Automation Engineer

May 2023 – Apr 2025

Coriolis Technologies Pvt. Ltd. (Contractor at Thales DIS)

- Designed Python-based automation to validate reliability and correctness of encryption-backed distributed storage workflows across kernels, filesystems, and network shares (NFS/SMB/CIFS).
- Debugged and reproduced issues involving file systems, authentication flows, and consistency.
- Worked on improving GitLab CI/CD, and internal release pipelines to ensure stable deployments.
- Improved APIs for testing AWS S3-backed storage, focusing on failure handling, retries, and throttling scenarios.
- Rewrote communication modules to improve handling of throttling, retries, and unreachability scenarios.
- Optimized concurrency-heavy communication paths by improving retry/backoff strategies and connection lifecycle management

Education

Bachelor's in Computer Science

2024

LPU, Punjab, India (GPA - 7.8/10)

Projects

store: Configurable storage engine

- Filesystem-inspired storage engine with a custom on-disk format, superblock initialization, and user-defined layout via TOML configuration.
- Implemented read, write, and append semantics over a disk-backed file abstraction with explicit disk sizing and offset management.
- Exploring compression-aware storage using LZ4, with pluggable design for future custom compression algorithms

sahDB: Redis inspired Minimal Database

- Building a minimal database in C to explore storage engine internals, memory layout, indexing, persistence, and custom replication protocols
- Working on network implementation tradeoffs, transactions, replication, fault tolerance, and the C10K problem.

Codeforces Problem Shortlister

- Python/Flask tool interacting with Codeforces APIs, with emphasis on clean request handling and predictable behavior under varying inputs.
- Simplifies process of preparing Codeforces mashup contests by identifying unsolved problems

Skills

Programming: C, Python

Systems: Linux (RHEL, Ubuntu, SLES, openSUSE), Windows

Databases: Redis, MariaDB, Cassandra

Debugging Tools: strace, gdb, procmon

Cloud Platforms: AWS, Azure