

AARIZ SHEIKH

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EDUCATION

M.H. Saboo Siddik College of Engineering — Mumbai, India | Bachelor of Engineering in Information Technology | Expected Graduation: 2027

TECHNICAL SKILLS

- **Languages:** Rust (Tokio, Async), Java (Core), TypeScript, JavaScript, SQL.
 - **Systems Engineering:** Multithreading, TCP/IP Networking, Memory Management, Linux (Nobara/Arch).
 - **Web Technologies:** Next.js 14, React.js, Tailwind CSS, D3.js, WebSockets, Docker.
 - **Tools & Cloud:** Git, GCP (Cloud Run), GitHub Actions, Postman, MongoDB.
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KEY ENGINEERING PROJECTS

FlashKV | High-Performance In-Memory Database

(Tech Stack: Rust, Tokio, Bytes, TCP) [GitHub Repository](#)

- **Handled 10,000+ concurrent connections** with zero data races by engineering a sharded `RwLock` architecture (64 shards) using Tokio's asynchronous runtime.
- **Reduced heap allocation overhead by 40%** compared to standard string handling by implementing zero-copy byte manipulation via the `Bytes` crate.
- **Enabled drop-in Redis compatibility** by writing a custom TCP parser for the **RESP protocol** from scratch, supporting SET, GET, and INCR commands.

RustyLoad | Async HTTP & TCP Load Tester

(Tech Stack: Rust, Clap, Hyper, Rattui) [GitHub Repository](#)

- **Validated system stability under 50,000+ RPS load** by building a high-concurrency CLI tool that outperforms Python-based alternatives by 18x.
- **Identified tail-latency bottlenecks** in distributed systems by implementing statistical analysis algorithms to calculate and report P95/P99 latency metrics.
- **Unified full-stack benchmarking** by architecting a dual-protocol engine capable of stress-testing both HTTP web servers and raw TCP database connections.

Mugen | Infinite Canvas Whiteboard

(Tech Stack: Next.js 14, Rough.js, FlashKV, MongoDB)

- **Reduced diagram retrieval latency by 300ms** (vs direct DB hits) by integrating the custom-built **FlashKV** database as a high-speed caching layer.
 - **Enabled infinite-canvas rendering at 60 FPS** by engineering a 2D matrix transformation engine using Rough.js for smooth pan/zoom operations.
 - **Ensured zero-latency user interactions** during network syncing by implementing optimistic UI updates and background persistence to MongoDB.
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OPEN SOURCE & CERTIFICATIONS

- **Google Cloud Skills Boost:** Earned 9+ Badges including *GenAI*, *Cloud Infrastructure*, and *Secure Networking* (2023).
- **Learning in Public:** Authoring a weekly engineering series on LinkedIn documenting the transition from High-Level Web Dev to Low-Level Systems Programming in Rust.