Surendra Jammishetti

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Education

University of California, Santa Cruz — Santa Cruz, CA

Bachelor's of Science, Computer Engineering, concentration: Systems Programming — *June 2023 — June 2026*

- Cumulative GPA: 3.91/4.0 | Dean's List
- Relevant Coursework: Data Structures, OS, Networks, Cryptography, Parallel Programming

Work Experience

Operating Systems Security Researcher — Sep. 2024 — Present

UCSC: Center for Research in Systems and Storage | *Rust, Qemu, Kernel Programming* — *Santa Cruz, CA*

- Reduced OS build times by **90% (3h → 20m)** by designing and deploying a caching system
- Implemented kernel-level security primitives (capabilities, memory isolation) for research OS.
- Working with Professor Owen Arden to integrate Decentralized Information Flow Control into the OS kernel.

Software Engineering Intern — June 2024 — Aug. 2024

LightLinks | *Embedded Rust and C Programming, eBPF, XDP, Kernel Programming, Networking* — *Santa Cruz, CA*

- Engineered a Multi-Device system to facilitate a light-based network protocol.
- Used existing kernel frameworks, such as eBPF and XDP to implement project specifications.
- Migrated legacy C codebase from C to Rust, reducing memory safety issues and improving developer productivity.
- Set up a custom GitHub Actions runner to build and test embedded networking software.

Lead Software Engineer — Mar. 2024 — Sep. 2024

ConnectifyAI | *Go, Python, Typescript, PostgreSQL, Docker* — *Santa Cruz, CA*

- Managed a team of 10 engineers (undergrads and graduate students), coordinating sprints and code reviews.
- Designed a system to build and run HuggingFace model pipelines with a custom runner.
- Created a performant REST API for our service using Go and PostgreSQL.
- Learned Docker and GitLab Runners to automate backend deployments.

Extracurricular Activities

MITRE eCTF 2025 (16th out of 116) | *Rust, Docker, OpenOCD, GDB, Cryptography* — Jan 2025 — April 2025

- Implemented a communication protocol over UART; for use between the host and microcontroller.
- Used GDB with OpenOCD to debug faults during the development process.
- Created Devcontainers and build scripts to improve developer tooling for the team.
- Implemented a custom cryptographic scheme (DPRF) to ensure secure broadcast streaming with subscriptions.

Projects

Hermes | *Rust, gRPC, Docker, AWS Nitro Enclaves* — github.com/suri-codes/Hermes

- Implementation of SPARTA a state-of-the-art meta-data private, traffic analysis-resistant messaging protocol.
- Expanded the system to support multiple devices per user and validated the proof-of-concept using AWS Nitro Enclaves.
- Final project for graduate level research class, report available here.

TARS | *Rust, Sqlite, HTTP* — github.com/suri-codes/TARS

- Built a custom task-tracking and long-term planning system, which I use daily to manage coursework and projects.
- Developmed a TUI interface backed by a Sqlite daemon to fetch tasks from various sources i.e. Canvas, Google Calendar.
- Implemented using a client server architecture compounding to an approximately **8k** LOC production-style codebase.

Skills

- **Programming Languages**: Rust, Go, C/C++, (Type/Java)script, Python, SQL (Postgres, Sqlite), Protobuf
- **Developer Tools**: Git, Nix, Linux/Unix, GDB, Devcontainers, Cargo
- **Technologies**: gRPC, TCP/IP, REST APIs, eBPF, QEMU, AWS (EC2, Nitro Enclaves), CI/CD (GitHub Actions, GitLab Runners)