Ruturaj Mohite

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Education

International Institute of Information Technology   **Bangalore, India**
Bachelor and Master of Technology in Computer Science   *2019 - 2024*
GPA: 3.58/4

Experience

Google   **Bangalore, India**
Software Engineer   *July 2024 - Present*
Part of the Google Store Content Management and Publishing team.

Mercari, Inc.   **Tokyo, Japan**
Software Engineering Intern   *Feb 2024 - Mar 2024*
Part of the Mercari Japan Region Trust and Safety team.
- Designed and implemented age restriction for item listings on Mercari Marketplace.
- Improved development infrastructure for TnS services - Set up service routing, dev monitors etc.
Technologies: Go, gRPC, Kubernetes, Async Service Communication

Google   **Bangalore, India**
Software Engineering Intern   *May 2023 - Aug 2023*
Part of the Google Store Content Management and Publishing team.
- Implemented a service to index and verify published releases during New Product Introductions (I/O, Made By).
- Designed a service to detect replication inconsistencies across distributed Spanner instances during publishing of a release.
- Reduced late change buffer time **from order of hours to order of seconds** before NPI.
Technologies: Java, Distributed Cache Systems, gRPC

Cloud Native Computing Foundation, Layer5   **Remote**
Software Engineering Intern   *Jun 2022 - Jan 2023*
meshery.io
- Added Kubernetes multi-context support to Meshery, a Cloud Native Management Software.
- Improved API for Kubernetes component registration with Meshery.
Technologies: Kubernetes, Docker, Go, Cloud Native, gRPC

Projects

**CircuitVerse Simulator **   *2021-Present*
CircuitVerse is an open source digital logic simulator. Try now at **circuitverse.org/simulator**
- Implemented testbench engine and circuit contention detection.
- Many fixes in resolution engine, subcircuits, circuit loading etc. Also some backend features and fixes.
- Led Google Summer of Code projects related to engine performance, version control and testing.
CircuitVerse is used by **over 100k users and many universities**. It's also a part of Google Summer of Code.

**Contain: A container process level packet filter **   *2024*
eBPF based kernel level filter for Linux that filters packets based on container and process level policies
- Implemented a BPF_PROG_TYPE_CGROUP_SKB program and kprobes to filter socket connections for each process
- Implemented a daemon using kprobes to detect containers at runtime

**very Simple Operating System **   *2021*
A simple 32-bit operating system for x86 systems.
- Implemented a basic bootloader to switch into protected mode and load kernel into memory
- Implemented VGA, keyboard drivers, custom libc and an interactive shell

Skills

- **Tools and Technologies:** Go, Java, C++, Linux, Docker, Kubernetes
- **Relevant Coursework:** Cloud Computing, Software Engineering, Data Structures and Algorithms
- **Areas of Interest:** Distributed Systems, Web and Network Security, Cloud Computing, Operating Systems

Positions and Achievements

- Google Summer of Code Organization Admin, Maintainer at CircuitVerse (2022, 2023, 2024)
- Full travel grant & scholarship to attend Open Source Summit EU 2022
- Dean's Merit List Scholarship (2020)