Ruturaj Mohite

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EDUCATION

International Institute of Information Technology   **Bangalore, India**
Integrated Master of Technology in Computer Science   *2019 - Present (expected 2024)*
GPA: 3.53/4

EXPERIENCE

Google
Software Engineering Intern   *May 2023 - Present*
Part of the Google Store Content Management and Publishing team.
- Implemented a service to index and verify published releases during New Product Launches (e.g. the Google IO).
- Designed a service to detect replication inconsistencies during publishing of a release.

Cloud Native Computing Foundation
Software Engineering Intern   *Jun 2022 - Jan 2023*
 meshery.io
- Added Kubernetes multi-context support to Meshery, a Cloud Native Management Software
- Improved the system functionality of Meshery's CLI interfacing with Kubernetes and Docker
- Designed and implemented an object-relational model for Meshery Cloud Catalog
- Improved API for Kubernetes component registration with Meshery
Technologies: Kubernetes, Docker, GoLang, Cloud Native, gRPC

CircuitVerse
GSoC Org Admin and Former GSoC Student   *Jun 2021 - Present*
 circuitverse.org
- Implemented testing engine and interface to allow automated testing of simulated circuits as a part of GSoC
- Greatly improved the stability of the simulation engine (bug reports **decreased by 50%**)
- Found and fixed multiple security vulnerabilities ranging from stored XSS to a full account takeover CSRF
Technologies: Ruby on Rails, JavaScript, Docker, Graph Algorithms
CircuitVerse currently has **over 80,000 users** and **over 3 million page hits**

PROJECTS

Egress Cgroup Socket Filter ↗   *2023*
BPF based per-process per-container egress filter
- Used BPF_PROG_TYPE_CGROUP_SKB and kprobes to filter socket connections for each process
- Implemented an interface with docker to attach filter to docker containers

very Simple Operating System ↗   *2020 - 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 and keyboard drivers
- Implemented a shell to interact with the kernel
- Implemented a custom C standard library used across the kernel

DirectTransfer ↗   *2021*
A parallel file transfer application
- Used sockets over TCP to carry out peer to peer data transfer
- Implemented network and process parallelization
- Designed a system that allows for dynamic port management for multiple ongoing transfers

SKILLS

- **Tools and Technologies:** GoLang, Linux, Docker, Git, Kubernetes, Service Meshes
- **Relevant Coursework:** Cloud Computing, Software Engineering, Data Structures and Algorithms
- **Areas of Interest:** Scalable Systems, Web and Network Security, Cloud Computing, Operating Systems

PORs AND ACHIEVEMENTS

- Recipient of full travel & scholarship to attend Open Source Summit EU 2022
- Core Member of Zense and Zense Infosec ↗
- Dean's Merit List Scholarship recipient (2020)
- India rank 20, worldwide 257 on CTFTime ↗ (2020)