Surya Teja Palavalasa

Irvine, CA, 92612
949-394-1847 | mail@suryateja.dev

EDUCATION

University of California, Irvine Sep. 2021 – Dec. 2022
Master of Computer Science

- Courses: Advanced Operating Systems, Computer Security
- Current GPA: 3.95 out of 4.

National Institute of Technology, Calicut Jun. 2012 – Jul. 2016
Bachelor of Technology in Computer Science and Engineering

- Courses: Computer Networks, Operating Systems, Cryptography, Computer Organization, Algorithms
- Graduated with a GPA of 8.06 out of 10.
- Secured 99 percentile among 1.2 million students appearing for the entrance exam.

WORK EXPERIENCE

Meta (Formerly Facebook), NewYork Jun. 2022 – Sep. 2022
Production Engineer Intern

- Worked on adding debian support for the in-house packing system
- Developed a resumable Debian package downloader that snapshots the state of a Debian repo in Rust
- A stateless apt proxy that would serve as a custom apt server to serve repo atomic snapshotted packages
- Added Debian support for Antlir: An image packaging solution
- My contributions are opensourced and available on github.
- Overhauled internal rpm snapshotter and improved the performance 100x

Freshworks, Hyderabad May. 2020 – Aug. 2021
Senior Software Engineer: Site Reliability

- Worked on unified edge platform responsible for handling all user facing inbound traffic across the organization.
- Developed a Highly Aavialability Service Discovery in Golang that discovers downstream endpoints.
- Collaborated on the development of ALB ingress controller for Amazon Web Service's Elastic Kubernetes Service.
- Worked on zone aware routing, decreasing cross-zone traffic by 30% and improving latencies by 20%.
- Recognized and appreciated for my effort in bringing the edge platform online and debugging hard to replicate traffic issues.
- Designed a multi-tenant secret storage system along with Language APIs to integrate in code.

Media.net, Bangalore Jul. 2016 – Mar. 2019
Site Reliability Engineer 2

- Worked on out of box metrics instrumentation in Golang, compiling custom logs and providing insights into application performance.
- Engineered A/B testing pipeline, comparing the effect of features on Revenue helping informed decision making.
- Developed an Auto-Scaling framework with AWS spot instances delivering 20% saving without sacrificing availability.
- Spearheaded the move to containers and Kubernetes framework to efficiently utilize the resources in our Co-located Data Center and proving Infrastructure as a Service.
- Contributed the early Kubernetes Netscaler ingress controller to integrate with Citix load balancers available in Data center.
- Refactored shard based(using Twemproxy) Redis architecture to a cluster based(gossip protocol) Redis with minimal downtime and maintaining data integrity.
- Followed and developed Infrastructure as code principles using Puppet

Computer Systems Group, IIIT, Hyderabad Mar. 2019 – Feb. 2020
Research Assistant

- Researched ways to solve cluster explosion problem in explicit state model checking.
- Architected a novel architecture utilizing actor based programming paradigm to solve memory explosion. Proposed architecture runs 8.6x more efficiently compared to traditional runs.
- Findings are published at the 27th IEEE International conference on High Performance Computing.

PROJECTS

eXperimental Operating System(XOS), Operating Systems Aug. 2014 – Nov. 2014
Github link: https://github.com/Surya361/myxos

- Developed a Toy Operating system that supports context switching, interrupts, demand paging
- The main aim of this project is to get familiarized with data structures and hardware constructs used in operating system

Lottery Scheduler for MINIX, Operating Systems Dec. 2015 – Apr. 2016
Github link: https://github.com/Surya361/minix-exp-lottery/tree/surya

- A micro-kernel based operating system that emphasizes reliability and security to performance.
- Changed the scheduling policy to lottery along with system calls to modify the priority of a process by changing tickets.

Cryptopals, Cryptography Dec. 2019 – Curr.
Github link: https://github.com/Surya361/cryptopals/tree/master/python

- Working on cryptography challenges from cryptopals

SKILLS

Languages : Rust, Golang, Python, Java, C, mit-scheme, HTML, Bash
Technologies : Kubernetes, Docker, AWS(EC2, EBS, VPC, EKS, R53, S3), Linux, Git, Graphite, Prometheus, Envoy, Apache Kafka, Bind, Puppet
Frameworks : Flask, Akka
Databases : MySQL, Redis, Elasticsearch.
Misc: Traffic Engineering(Web servers, distributed tracing, DNS, CDN, TLS, PKI), distributed systems, Performance Engineering