sankethn1947@gmail.com www.linkedin.com/in/sanketh-reddy/

Boston, MA +1 857 205 1297

EDUCATION:

Masters (M.S.): Computer Science.

09/24 - 12/26

CGPA: 4.0

Northeastern University - Khoury College of Computer Sciences, Boston, MA.

Programming Design Paradigm, Algorithms, Web Development, Computer Systems.

Bachelors (B.E.): Computer Science Engineering.

08/18 - 07/22

CGPA: 3.74

PES University - Main Campus, Bangalore, India.

Computer Networks, Distributed Systems, Operating Systems, Network Security, Cloud Computing.

TECHNICAL SKILLS:

Programming Languages: Go, C, C++, Python, Java, Shell Scripting.

Cloud and Distributed Technologies: SDN, Docker, Kubernetes, Kubernetes Operators, Intel DPDK, Hadoop, AMD Smart NIC, BESS, HashiCorp Vault, Kafka, gRPC, RabbitMQ, ZNS SSD, Intel SPDK, NVMe-over-Fabric, RDMA InfiniBand.

Web Development and Database: HTML, CSS, ReactJS, NextJS, NodeJS, Nginx, Postgres, MySQL, MongoDB, OpenAPI.

EXPERIENCE:

TESLA, Palo Alto, CA

05/25 - Present

Software Developer Intern - IT Infrastructure

- Contributing to **Tesla Private Cloud** in the Application layer using Golang, Next.js, and React.js.
- Built RESTful and gRPC-based APIs to enable efficient communication in a micro-service architecture.
- Added support for DHCP IP leasing for **Bare Metal server** integration used for PXE bootup.
- Designed and Implementing an end to end software for SKU cataloging.

KHOURY COLLEGE, Boston, MA.

01/25 - 04/25

Graduate Research Assistant - Systems Research Group.

- Contributed as a C/C++ developer for prototyping a high-speed Distributed Cloud Object Store. ZStore.
- Working with Technology like Intel SPDK, ZSN SSD, and NVMe-oF to build a distributed S3 service.
- Implementing consensus for LBA index(Logical Block Addressing) across gateways writing to SSDs, using Infiniband (lib verbs API) and circular buffers.
- Working on extending the object store to store larger objects than the physical blocksize on SSDs.

IBM CLOUD, Bangalore, India.

06/22 - 08/24

Served as a Backend Developer for IBM Cloud's Software Defined Networking (SDN) team, utilizing Go, C++, Python, gRPC, Shell Scripts, Docker, and Kubernetes for development tasks.

Software Developer 2 – SDN.

- Integrated Pensando (AMD) Smart NIC into the SDN layer, leading efforts to redesign the control plane and develop the final testing framework. Rewrote key modules to support dual NIC within the same compute codebase, increasing compute node utilization to 200% as we could double the number of VSIs that can be created on a single compute node.
- Enhanced IBM Cloud's Customer Flowlogging service by implementing a certificate framework using Hashicorp-Vault for MTLS connections and developing a **Health monitoring** daemon for the service.
- Optimized billing modules across multiple entities by reducing API calls to the billing server and resolving a critical performance issue. Reduced junk API calls to the billing server by 95% while adhering to Billing SLAs.

Software Developer 1 - SDN.

- Implemented Metrics for monitoring and observability of many data plane modules and exported these metrics to the observability dashboard using **Sysdig**, **Prometheus**, and **Grafana**. I also wrote and maintained runbooks for the same.
- Implemented sanity tests for the data plane's packet-monitoring feature, achieving 100% code coverage from an initial 0%.
- Won IBM Cloud Hackathon 2023 by creating a dashboard that cut SRE debug time from hours to minutes by streamlining customer configuration visualization and issue resolution.

IBM ISDL (India Systems Development Lab), Bangalore, India. Software Developer Intern.

01/22 - 07/22

Served as a Golang developer for IBM Spectrum Fusion. Worked on Disaster Recovery for IBM Spectrum Fusion using Redhat OpenShift, and Kubernetes operators.

PUBLICATIONS:

- Optimizing Constraint-Driven Container Orchestration Policies In A Cloud Environment
- **Energy Efficiency in HDFS**

PERSONAL PROJECTS:

- Proc-C-mity and Proximity: A terminal based on a LAN chat room developed using C, and Python sockets.
- Kanbas: A content delivery platform built using ReactJS and NodeJS, deployed on Netlify, Render, and MongoDB.
- <u>ImageEditor</u>: Software developed in Java with multiple image editing features support with an interactive GUI.