

SAHIL ASHISH RANADIVE

☎ +1-(404)-490-7101 ✉ sahilranadive1998@gmail.com [in /sahilranadive](https://www.linkedin.com/in/sahilranadive) [github /sahilranadive](https://github.com/sahilranadive)

Education

Georgia Institute of Technology

Master of Science in Computer Science

Aug. 2022 – May 2024

GPA: 4.0/4.0

Birla Institute of Technology and Science, Pilani(India)

Bachelor of Engineering in Computer Science

Aug. 2016 – May 2020

GPA: 8.1/10.0

Relevant Coursework

- **Georgia Tech:** Advanced Operating Systems, Computer Networks, Intro to Information Security, Internet Data Science, Human in the Loop Data Analytics, Distributed Computing (current)
- **BITS, Pilani:** Cloud Computing, Data Structures and Algorithms, Database Systems, Neural Nets and Fuzzy Logic

Experience

Nutanix

Cloud Engineering Intern

May. 2023 – Aug. 2023

San Jose, CA

- Worked on inter-conversion of Virtual Machine(VM) image formats; Introduced parity between VM Templates, a Nutanix native cluster agnostic VM snapshot like format, and OVAs, the industry standard for storing VM images.
- Developed two optimized RPCs, backed by Python code, one for each side of the conversion, to enable one-click inter cluster migration of VM images. As a result, eliminated the download overhead for OVAs while migrating between clusters and fulfilled a key business requirement for 5000+ customers.

AppDynamics(Part of Cisco)

Software Engineer

Jul. 2020 – Jul. 2022

Bangalore, India

- Designed a Golang based OTel collector for monitoring Kubernetes workloads; Optimized it to leave minimum footprint on customer clusters while **improving scaling performance by 9 times**
- Developed several backend features for the database agent in Java including a **collector for PostgreSQL** databases
- Designed an ingestion service for cloud metrics using an OTel collector, Prometheus and the AppDynamics back-end for the company-wide hackathon; Placed **1st runner-up** in the tech vertical among 98 participating teams

PayPal

Software Developer Intern

Jan. 2020 – Jun. 2020

Bangalore, India

- Worked full-stack on developing an organization-wide web application to query and retrieve Merchant Billing transactions easily and efficiently using a Java backend and an Angular frontend

Projects

Network Telescope based Internet Measurements (current project)

Aug. 2022 – Present

- Worked on the Meta Telescope project, an effort to propose the largest and most distributed network telescope; Used an IXP as a Vantage point along with real world data from Merit's network telescope, Censys and the ISI address history dataset to identify inactive network blocks globally; *Work currently submitted to ACM IMC 2023.
- Analyzed and filtered noise in erratic signals from Merit's network telescope used by IODA for internet outage detection

Projects from the Advanced Operating Systems course

Aug. 2022 – Dec. 2022

- Virtualization: Developed a **CPU Scheduler** and a **Memory Manager** for dynamic memory management in C
- Parallel Computing: Implemented, performance tested **Tree** and **MCS barriers** for thread and process synchronization
- Large Scale Systems: Used **Async gRPC** and a threadpool to serve clients requesting key-value pairs stored across multiple servers; Implemented a crash resistant **MapReduce** framework using gRPC from scratch;

Detection and Prevention of DDoS Attacks using Darknet Data

Aug. 2019 – Dec. 2019

- Analyzed large-scale Internet Background Radiation (IBR) data from CAIDA's network data using CORSARO
- Successfully optimized a K-means based to recognize DDoS attacks that **correctly identify 95% attack patterns**

Efficient Task Distribution and Scheduling in Clustered Environments

Jan. 2019 – Jun. 2019

- Developed a load balancing algorithm for priority-based scheduling of a continuous stream of jobs on cluster systems
- Achieved improved performance compared against existing load balancing algorithms like the Round Robin approach
- This work was published as a short paper and was presented at IEEE CCNC 2020 held in Las Vegas

Technical Skills

- **Languages:** C++, Java, C, Go, Python, HTML/CSS, JavaScript, SQL, \LaTeX
- **Tools and Frameworks:** Kubernetes, Docker, OpenTelemetry, SqlCommenter, BigQuery, gRPC, libvirt, Git

Leadership / Extracurricular

- **Teaching Assistant** for **Advanced Operating Systems** at Georgia Tech instructed by Prof. Ramachandran
- **Head Teaching Assistant** for the Neural Networks and Fuzzy Logic course(150 students) at BITS, Pilani)