Amogh Madanayakanahalli Kumar

: amoghmku@gmail.com : +1 (831) 266-5534 : Santa Cruz, CA 95064

: linkedin.com/in/amoghmk : amoghmk.github.io

EDUCATION

- **University of California, Santa Cruz** (Current)
  - Master of Science in Computer Science and Engineering *(Sep 2022 - Jun 2024 (Expected))*
- **PES University, Bengaluru, India**
  - Bachelor of Technology in Electronics and Communication Engineering - **9.37/10** *(Aug 2015 - May 2019)*
  - Minors in Computer Science and Engineering - **9.6/10** *(Aug 2016 - May 2018)*

Relevant Coursework: Computer Networks, Operating Systems, Database Management Systems, Data Structures and Algorithms.
Planned Coursework: Distributed Computing, Storage Systems.

TECHNICAL SKILLS

- **Programming Languages :** C, Python, Java, Perl, Golang, C++, Shell Script
- **Database Management Systems :** MongoDB, MySQL, SQLite, PostgreSQL
- **Tools/Frameworks :** Git, Wireshark, Docker, Flask, REST APIs
- **Cloud Platforms :** Amazon Web Services (AWS), Azure
- Agile Methodologies, Object Oriented Programming

WORK EXPERIENCE *(3+ years)*

- **Citrix R&D, Bengaluru, India**
  - **Software Development Engineer - Level 2** *(Mar 2021 - Sep 2022)*
    - Developed a feature to monitor health of internet links and consequently backhaul critical application traffic via stable MPLS links instead of direct breakout to internet upon detection of significant degradation (default of 1s latency or 10% loss).
    - Devised an infrastructure to automatically push SaaS application signatures for traffic classification onto Citrix SD-WAN (Software-Defined Wide Area Network) appliances from Citrix SD-WAN Orchestrator service on cloud. This enabled updating of the signatures on the appliances within 24 hours in opposition to requiring a new release.
    - Research on integration of Citrix SD-WAN with Citrix ITM (Intelligent Traffic Management) for intelligent wan-link path selection for optimal delivery of internet-bound SaaS application traffic.
    - Live environment analysis, debugging and resolution of 20+ critical customer issues.
  - **Software Development Engineer - Level 1** *(Jul 2019 - Feb 2021)*
    - Classification and Optimization of Citrix Managed Desktops traffic and Web proxy traffic passing via Citrix Gateway Service.
    - Added enhancement of IPv6 support for DNS parsing and proxying features as well as first packet classification in Citrix SD-WAN for routing of Office365 and other SaaS application traffic.
    - Lead a team of 4 to design and develop an infrastructure to create on-demand Citrix SD-WAN networks in private cloud (OpenStack) and configure the same via SD-WAN Orchestrator on the basis of a digitally visualized network topology.
  - **Software Engineering Intern** *(Jan 2019 - Jun 2019)*
    - Designed and created Behavioral Driven Development (BDD) validation framework for Citrix SD-WAN Orchestrator. The framework provided a solid base for the product's Automation and helped to offload the majority of the manual testing.

ACADEMIC PROJECTS

- Implemented RSA public key cryptographic algorithm using Verilog and developed an ASIC (Application-Specific Integrated Circuit) design so that the hardware could be ideally added to the end network devices to ensure safe and secure data sharing capabilities while decreasing the processing power required by the devices.
- Researched and proposed secure storage of biometric data using Blockchain for distributed registration and access systems. As a proof of concept, using python, implemented the Kerberos authentication process for validating transactions from registration centers to enter data into the transaction pool and data retrieval from blockchain ledgers to access points.

PROFESSIONAL DEVELOPMENT CERTIFICATIONS

- AWS Partner: AWS Cloud Practitioner Essentials. *(Aug 2022)*
- Citrix certified security track - Level 5 - Purple Belt in "Secure Cloud Development". *(Mar 2019 - Aug 2021)*
- Citrix Learning Center course on "Docker with Kubernetes". *(Dec 2019)*
- Coursera certified course on "Machine Learning" offered by Stanford University. *(Jun 2017 - Aug 2017)*

PATENTS and ACHIEVEMENTS

- **US 17/841,135** - An optimal way to store multiple copies of files in local PoPs. *(Filed - Jun 15, 2022)*
- Received CNR Rao Merit Scholarship from PES University for academic excellence in all 7 semesters it was offered.