Sharon Moses Jangam

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EDUCATION

Master of Science - Computer Science (GPA: 3.77/4) *Expected May 2024*

University of Colorado Boulder, Boulder, CO

- Relevant course work: Design and Analysis of Algorithms, Network Systems, Foundations of Software Engineering, Network Management and Automation, Cloud Technologies, Linux System Administration, Principles of Leadership: Leading Oneself.
- Fellowships: Amy Barnes Frey Fellowship, Telecommunication Association Graduate Fellowship.

TECHNICAL SKILLS

- Languages: Python, Golang, C, C++, React(TypeScript), JavaScript, Java(core), HTML, CSS, Swift*, Objective-C*.
- Platforms: Linux, Windows, 5G (NGC), 4G LTE, Google Cloud(GCP), AWS, Heroku, Kubernetes, Docker, Prometheus.
- Software: MongoDb, RedisDb, PostgreSQL, MySQL*, SQL, SQLite*, Kafka, RabbitMQ, Git, Perforce, Postman.
- Miscellaneous: Sockets, REST APIs, Wireshark, YANG, GIT, CMAKE, GNU Tools, Readelf, Perforce, ConfD/NetConf, CTest, GTest, gRPC, 3GPP, CI/CD Pipeline, Jenkins, Agile Methodologies, Jira, TDD, TCP/IP.

PROFESSIONAL EXPERIENCE

Software Engineer Intern, Apple, San Diego, California *May 2023 - Present*

- Improved the quality of 5G NAS layer of cellular protocol stack software for Apple's wireless embedded products in C/C++.
- Performed comprehensive trace logging for two key modules within the cellular protocol stack software, drastically increasing the debugging capabilities and providing valuable insights into the system's behavior and performance.
- Introduced a bug clustering methodology streamlining troubleshooting, reducing resolution time for similar crashes leveraging Python and collaborated with cross-functional teams to devise and optimize software solutions.

Senior Software Engineer, Radisys, Bengaluru, India *January 2021 - August 2022*

- Engineered microservices-based cloud-native 5G Core Network Functions: AMF, SMF using C++, Protobufs, Docker, and Kubernetes, boosting message communication.
- Developed Watch-DB microservices in C++, MongoDB, and CTest to monitor user data and notify Core Network Functions.
- Boosted stateful UDM performance by 23%, transforming it into a stateless, platform-agnostic node using microservices and MongoDB.
- Developed stateless cloud-native 5G Network Node, UDR to provision user auth and subs data using C++, MongoDB.
- Received the 'Gone Extra Mile' award for reducing debugging effort of the team by 7 hours/week through automation of CI/CD packaging aspects for UDM, UDR, and Watch-Db micro-services.
- Collaborated with Sr. Director to cut down the MongoDB read/write cost and increased the maximum user capacity of UDM.
- Mentored a software engineer, created comprehensive onboarding documentation, leading to a speedy ramp-up.

Senior Software Engineer, Samsung Research Institute(Partner Emp), Bengaluru, India *September 2018 - December 2020*

- Spearheaded design, development and deployment of microservices based cloud-native 4G network node MME using C++, Protobufs, Docker, and K8s in a team of 8 and was awarded Samsung S.P.O.T award for the contributions.
- Coded a discrete-event network simulator to evaluate behavior and performance of 3 major 5G cloud-native network functions - AMF, SMF, and NG-RAN.

Software Engineer, Global Edge Soft Ltd, Bengaluru, India *June 2017 - September 2018*

- Introduced CUPS architecture to SGW, a 4G Core network node, through 6 Sx Node and Session related messages using PFCP protocol and also implemented proprietary PFCP dissector plugin in Wireshark based on TS 29.244 and TS 23.214.
- Awarded Global Edge Young Turk for the technical expertise in C, Data Structures, LINUX Kernel internals, Multithreading, System Calls and Computer Networks and for contributions in documentation of the same.

KEY PROJECTS

Passthru: A Protocol Omni-multiplexer, Jose Santos, University of Colorado, Boulder *August 2022 - December 2022*

- Implemented the Layer 4 (TCP) demultiplexer using Golang, leveraging the language's capabilities to efficiently sniff application data and reroute connections to appropriate targets.

FitLife: Empowering Your Fitness, Dr. Mike, University of Colorado, Boulder *January 2023 - May 2023*

- Led the development of an innovative fitness and health tracker, empowering users to monitor and enhance well-being in a team of 4 using Agile SDLC Methodologies.
- Utilized Heroku, ReactJS, Python3/Flask, MongoDB, Prometheus, and REST APIs to create a robust and scalable application.
- Accomplished efficient event collaboration utilizing RabbitMQ; Achieved high reliability through comprehensive testing using Pytest, Postman, and GitHub Actions.