SHARON MOSES J

(+91)8499975077 ⋄ SharonMoses.Jangam@colorado.edu
https://www.linkedin.com/in/sharon-moses-jangam/

EDUCATION

University of Colorado Boulder — ***Colorado, USA***
Masters in Network Engineering degree of Computer Science Department — Aug'22 - May'24

VNR VJIET — ***Telangana, India***
Bachelor of Technology in Computer Science and Engineering — Sept'13 - May'17

SKILLS

Languages	C, C++, Python
Tools	GNU Tools, Readelf, SVN, Perforce, Git, Cmake
Debuggers	GDB, Valgrind
Miscellaneous	LTE Architecture, 5GS Architecture, WireShark, ProtoBuf, Kubernetes, Docker

KEY PROJECTS

Radisys — Bengaluru
Senior Software Engineer — *Jan'21 - Aug'22*

5G Core Network Research and Development

***** Implemented feature enhancements of 5G basic call procedures which includes Service Request procedure, Registration procedure, PDU Session Modification/Release procedure in AMF, SMF 5G nodes.
***** Involved in the implementation of common **Watch-DB** micro-service which is to watch any changes on the collections of a database and to notify the same to UDM or NRF of 5G Core Network.
***** Implementation of a stateless **UDM** and **UDR** Nodes of a 5G Core Network Architecture from the scratch with **MongoDB** as back-end for storing document-based data. And deployed UDM,UDR, and Watch-DB as a container on the 5GCN K8s cluster with the help of Kubespray.
***** **Nudm-UEAU** (UE Authentication to serve AUSF Consumer), **Nudm-UECM** (UE Context Management to serve AMF/SMF consumer), **Nudm-SDM** (Subscriber Data Management to server AMF/SMF consumer) are the supported micro-services in UDM Server. And also implemented UDM Http2 Client model to notify subscribed NFs.
***** Designed and developed **Nudr-DR** microservice for UDR server which accepts User Subscription Data from the Operator.
***** Involved in CI/CD packaging aspects of UDM and Watch-DB on Jenkins pipeline.
***** **Environment :** C++, Python, Git, Cmake, YANG, MongoDB, Kubernetes, Docker, Kubespray, Helm Charts, Http2 Server/Client, Linux, ARM.

Samsung Research Institute (Partner Employee) — Bengaluru
Senior Software Engineer — *Dec'19 - Dec'20*

Containerization of MME

***** Involved in design and development of a containerized platform for **MME, a LTE Core Network Node**.
***** Efficiently implemented and tested **ConfD** commands (NETCONF/CLI) for **containerized MME** and implemented corresponding Inter Process Communication message exchange between **Network Level Nodes** using **Google Protocol Buffers**.
***** **Environment :** C/C++, YANG, RedisDb, Kubernetes.

Samsung Research Institute (Partner Employee) Bengaluru
Software Engineer *Jun'19 - Nov'19*

CONFD and ServerBT

***** Efficiently implemented and tested **ConfD** commands for 5G Core Network Nodes AMF, SMF and UPF.

***** Developed **Server BT** test cases for **SMF** to verify the message exchange between network nodes during Registration Management Procedures, Session Management Procedures and Network Node level interactions; consequently achieved SMF code stabilization.

*** Environment :** C/C++, YANG, PostgreSQL.

Samsung Research Institute (Partner Employee) Bengaluru
Software Engineer *Sept'18 - May'19*

Simulation of 5G Core N/W nodes

***** Developed a **discrete-event network simulator** which evaluates the behavior and performance of various cloud-native functions of 5G like **NG-enodeB**, **AMF** and **SMF**.

***** Developed unit test cases to verify IPC message exchange between **AMF**, **SMF** and **UPF** modules.

*** Environment :** C/C++ using Google Protocol Buffers, GTEST framework.

***** Understanding of technical specifications: **TS 23.501**, **TS 23.502**, **TS 23.512**, **TS 23.513**, **TS 23.515**.

Global Edge Software Limited Bengaluru
Software Engineer *Jul'18 - Aug'18*

EPC interface test case repository

***** Developed a test case repository for testing EPC components independently which provides the flexibility to test the individual component to avoid interoperability testing.

***** Documented call procedures and protocols used specific to LTE core N/W nodes by understanding of technical specifications of **TS 29.274**, **TS 29.281**, **TS 23.214**, **TS 29.244**.

Global Edge Software Limited Bengaluru
Software Engineer *Jan'18 - Jun'18*

Control and User Plane Separation(CUPS) of EPC

***** Implemented **Sx Node** Related messages and **Sx session** related messages using PFCP .

***** Developed **PFCP(Packet Forwarding Control Protocol) dissector in Wireshark** based on **TS 29.244** and **TS 23.214**.

*** Environment :** C/C++, Wireshark(1.12.5).

Global Edge Software Limited Bengaluru
Trainee *Jun'17 - Dec'17*

***** Achieved expertise in **C, Data Structures, LINUX Kernel internals, Multi-threading, various LINUX commands, System Calls and Computer Networks.**

***** Comprehensive understanding of **LTE Architecture** and **End to End Call procedures.**

HIGHLIGHTS

***** Extensive experience in C, C++, Data Structures.
***** Good understanding of IPC mechanisms, Computer Networks.
***** Good understanding of LTE and 5G call flows.
***** Team player having strong verbal communication, interpersonal skills, and problem-solving approach.
***** Experienced in debugging program modules.