

# U. Sai Manohar Krishna

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## CAREER OBJECTIVE

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An Embedded Software Engineer with 3+ years of experience as specializing in the development and analysis of LTE-EPC, IoT, and log analysis systems. Developed expertise in LTE NAS/S1AP functionalities and a strong understanding of core LTE concepts, including power-on procedures and channel mapping. Proficient in C, data structures, Linux internals, inter-process communication (IPC), and socket programming. Possess a solid foundation in IoT concepts.

## WORK EXPERIENCE

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### Google(client)

Android QA engineer

Sep 2024 - Present

- **Android Telephony**
- Description: Android telephony project is the development & testing for Mobile devices (pixel devices) for the daily based Build binary(ZP1A,BP1A,BD4A) which is created by developers. Main goal is to debug the issues and report the issues while doing the testing.
- Role: - Have the knowledge on Bluetooth testing and mobile testing -Expertise in Satellite testing,UICC,Bootloader,QNS,IMS and MEDIA testing etc -Raised the bugs on both sanity testing and bluetooth testing in buganizer
- Environment: - Test tracker,go/stork,go/flash

### Capgemini

Associate 2 engineer

May 2024 - Sep 2024

- **Edgex Foundry**
- EdgeX Foundry is an open-source platform that enables an ecosystem of interoperable components for IoT solutions. It provides a flexible and scalable framework for building IoT edge solutions.
- Role:
- Edge Layers Knowledge: Acquired in-depth understanding of the various layers
- within the EdgeX architecture, including core services, device services, application services, and security services.
- Consul Service Implementation: Implemented the EdgeXConsul service, both with Docker and without Docker, ensuring seamless service discovery and configuration management.
- System Understanding: Gained comprehensive knowledge of how EdgeX components interact and function together to provide a cohesive IoT solution.
- Environment:
- Platform: Open Source
- Language: C
- Tools: EdgeX Core Services, Device Services, Application Services, Security Services

Associate 1 software engineer

April 2023 - April 2024

#### • **4G LAB SETUP(EPC)**

Description: This project focused on enhancing the 4G LTE lab setup by upgrading the Evolved Packet Core (EPC) components to the latest versions. The primary goal was to resolve critical issues within the infrastructure and improve overall system performance.

• Role:

• Implementation Lead: Led the implementation of the 4G LTE lab setup, addressing various technical challenges and ensuring a smooth upgrade process.

• EPC Code Upgrade: Successfully upgraded EPC code to the latest versions (Version 16 & 20), ensuring compatibility with new standards and performance improvements.

• Memory Leak Resolution: Proactively identified and rectified memory leaks using

• Valgrind, optimizing resource utilization and system stability.

• Advanced Debugging: Employed advanced debugging techniques with GDB to pinpoint and resolve segmentation faults, enhancing system reliability.

• Synchronization Failures: Resolved synchronization failures encountered during network attachment and authentication processes, implementing tailored solutions for seamless operation.

• Environment:

• Operating System: Linux (Ubuntu)

• Language: C

• Tools: Wireshark, Valgrind

• Debugger: GDB

• Code Coverage Tools: LCOV, GCOV

#### **Google(client)**

Modem engineer

Sep 2022 - March 2023

#### **Log Analysis**

Description: The Cellular Log Analysis project involves in-depth log analysis on the MODEM side of cellular networks. The aim is to uncover insights and identify improvements to enhance network performance and reliability.

• Role:

• Call Analysis: Analyzed Mobile Originated (MO) and Mobile Terminated (MT) calls in different scenarios such as EPSFB, CSFB, and SRVCC, identifying key performance issues.

• RF Parameter Check: Checked RF-related parameters and identified the root causes of Radio Link Failures (RLF), contributing to improved network stability.

• RLF Debugging: Debugged RLFs in various scenarios related to Key Performance Indicators (KPI), mobility tests, and lab testing, addressing issues like RLC max retransmission, RACH failure, T310 expiry, and handover failure.

• Camping Procedure Debugging: Debugged bugs related to the camping procedure for LTE and NR NSA, resolving issues such as PSS, SSS, MIB, and SIB1 decode failures, and poor signal camping.

• Environment: Tools: Shannon DM, Log Studio, QXDM, QCAT

#### **Global Edge Software Ltd with Capgemini engineering**

Associate Software engineer

Feb 2022 - Aug 2022

#### **Internship**

Topics: C and Data Structures, Networking and Linux, SDLC, LTE Training (Architecture, Protocol Stack, End-to-End Call-Flows)

• C Programming: Gained 2 years of hands-on experience in C programming, focusing on developing efficient and optimized code for embedded systems and network protocols. Worked extensively on data structures, memory management, and debugging techniques to ensure high-performance applications.

## **EDUCATION**

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### **Chaitanya Bharathi Institute of Technology**

Bachelor of Technology with the stream of Computer science and engineering - 7.35

2017 - 2021

## **SKILLS**

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- Operating Systems: Linux, Windows
- Languages: C, Data Structures, Networking, LTE, IoT,5G
- Protocols: COAP, NAS, S1AP, TCP/IP, Profibus, Profinet, MQTT, RTP, RTCP, SIP, IMS
- Tools: GNU Make, GIT, CSCOPE, Shannon DM, LogStudio, QXDM, QCAT
- Debuggers: GDB, Valgrind, Address Sanitizer, Gcov, Lcov