

Bindu Yarram

Embedded Software Engineer | C Developer | Networking Systems Engineer

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PROFESSIONAL SUMMARY

Embedded Software Engineer with 3.7 years of experience in **Embedded C** development on **Linux platforms**, specializing in **networking systems**, **telecom protocols**, and **embedded product debugging**. Proven expertise in **LTE PGW**, **CLI development**, **low-level programming**, and **performance optimization**. Experienced in working with **RTOS environments**, **device drivers**, and **protocol-level troubleshooting**. Strong knowledge of **data structures**, **memory management**, and **system architecture**. Proven ability to deliver **reliable**, **scalable solutions** in high-performance, fast-paced environments.

TECHNICAL SKILLS

- **Languages:** Embedded C, Python, Data Structures
- **Operating Systems:** Linux (Ubuntu), Windows, StarOS, basic RTOS concepts
- **Embedded Skills:** Memory Management, Interrupt Handling, Debugging, Multithreading
- **Communication Protocols:** UART, SPI, I2C, TCP/IP, DHCP, ARP, DNS, OSI model
- **Networking & Telecom:** LTE (4G), PGW, ISIS Routing Protocol, ASR5K Routers
- **Tools:** GDB, Git, Wireshark, TAAS, Jira, Microsoft Office
- **Version Control & Testing:** Git, Code Review, Unit/Integration Testing, RCA, Regression
- **Core Competencies:** CLI Development, Protocol Debugging, Packet Flow Analysis, Performance Tuning

WORK EXPERIENCE

Senior Software Engineer | HCL Tech

Nov 2021 – Mar 2025

Project: HPE Aruba Networking (Embedded CLI for Routers/Switches)

- Designed and implemented **Command Line Interface (CLI)** for the **ISIS routing protocol** used in enterprise switches.
- Contributed to the **integration of protocol stacks** in networking modules with **low-latency performance goals**.
- Performed **unit testing and system integration** under **Linux-based embedded systems**.
- Enhanced protocol responsiveness through memory management and **stack optimization**.
- Supported firmware enhancements with a focus on **CLI usability**, test coverage, and documentation.

Project: LTE PGW (Packet Gateway - Telecom Domain)

- Worked on **4G mobile network systems**, specifically the **Packet Data Network Gateway (PGW)**.
- Resolved critical **system crashes and memory leaks** through deep analysis of embedded logs and live packet traces.
- Improved **flow control** and **state machine behavior** in C modules for better

- handling of mobile user sessions.
- Performed **packet-level debugging**, regression fixes, and inter-module communication validation.
- Interfaced with **hardware routers (ASR5K)** and **TAAS testing tool** for field replication and performance testing.
- Conducted detailed **Root Cause Analysis (RCA)** for complex multi-threaded issues in live environments.

EDUCATION

Sathyabama Institute of Science & Technology

2017 - 2021

B.Tech-Computer Science and Engineering

8.5 GPA

CERTIFICATIONS & ACHIEVEMENTS

- **Advanced Embedded C Programming** – Udemy
- **Python for Embedded Systems** – Udemy
- **HCL ERS Champion Award** – For excellence in telecom systems development