

Meharaj

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Portfolio Link: <https://app.revature.com/profile/Meharaj/df6369fde8b6d6f1fb6f50fac5e715b4>

PROFESSIONAL SUMMARY

Embedded Software Engineer with 2 years of experience in Embedded Linux and firmware development for Embedded Devices. Proficient in C programming, multithreading, socket programming, communication protocols & networking protocols. Experienced in developing automation applications, implementing firmware upgrade mechanisms, and performing ITSAR-NCCS compliance testing. Strong background in Linux internals, system-level debugging, and TCP/IP networking for embedded systems.

SKILLS

- **Programming Languages:** Advanced C, Python, C++ , Embedded C
- **Hands on Experience with:** Linux, Bash shell scripting, Linux internals, C, C++, Data Structures & algorithms, microcontrollers & Microprocessors, Communication protocols, Core concepts of Electronics & Communication
- **Communication protocols:** UART, I2C, SPI, CAN, MQTT
- **Networking protocols:** TCP, UDP, RIP, OSPF, EIGRP, BGP
- **Operating system:** Linux, RTOS
- **System Programming:** Linux kernel system calls, Process, IPC mechanisms, Pthreads, Synchronization Techniques (Mutex, Semaphore), Scheduling algorithms, Memory Management unit, Process management
- **Micro controllers:** PIC 18f4580 , ARM microcontrollers STM32, Arduino
- **Cloud Tech** – Azure cloud services, Docker, Jenkins, Kubernetes, Terraform, Ansible, SRE
- **Monitoring Tools:** Prometheus, Grafana, Loki
- **Tools :** Multisim, Xilinx , Matlab , Tableau , python idle, GCC compiler, Terraform, MPLAB, GDB Debugger
- **Debugging Tools :** JTAG Debugger, Oscilloscopes, Logic Analyzers
- **Networking Tools:** Wireshark, TCPdump, Ping, Traceroute, Make / CMake, SSH / SCP, Cross-compilation toolchains (GCC), Netstat, Telnet, Ftp, Tftp, curl, Putty

EXPERIENCE

Embedded Engineer, Emertxe Information Technologies.

- I completed Training from Emertxe, Bangalore. I had done upto 10 real time projects
- I have completed hands-on training in data processing, C, C++, Linux, Linux internals , Microcontrollers, Data structures, Digital Electronics, Analog Electronics, Bash Shell scripting , Operating Systems

Certificate Link : https://certificate.emertxe.com/?id=23026_628

Cloud Engineer, Revature, Chennai.

- completed training in revature and selected for client location – Randstad India, Bangalore & completed real time projects using Azure cloud services
- Cloud Portfolio Link: <https://app.revature.com/profile/Meharaj/df6369fde8b6d6f1fb6f50fac5e715b4>
Certificate Link : https://drive.google.com/file/d/1jdOtRNj3DO5kr8D-wpnJZFX8_OoZaWPD/view?usp=sharing

Embedded R&D Engineer – RLTECH INDIA PRIVATE LIMITED.

March 2025/Present

- Developed embedded software and firmware using C on Embedded Linux for OLT and ONT telecom devices.
- Worked on embedded firmware development, feature implementation, and bug fixing for networking devices.

- Designed and implemented multi-threaded applications using POSIX pthreads, mutex, and synchronization.
- Implemented socket programming (TCP/UDP) for inter-module and device communication.
- Developed MQTT-based communication between AVASA application and OLT using publish/subscribe architecture.
- Developed AVASA automation application for centralized management of OLT/ONT devices.
- Implemented firmware upgrade (FOTA) mechanism for remote and bulk device updates.
- Worked on Linux internals including process management, signals, IPC, timers, and file operations.
- Implemented inter-process communication (IPC) for communication between software modules.
- Performed system-level debugging using logs, gdb, and core dump analysis on embedded targets.
- Used Wireshark and tcpdump for packet capture and networking protocol debugging.
- Debugged TCP/IP stack level issues and device communication problems.
- Worked with cross-compilation toolchains for building firmware for target hardware.
- Performed firmware integration and deployment on embedded Linux platforms.
- Optimized memory usage and CPU utilization for resource-constrained embedded systems.
- Developed client-server architecture for device control and management.
- Performed ITSAR-NCCS compliance testing and resolved issues for certification.
- Collaborated with hardware and QA teams for device bring-up, validation, and firmware release.

Skills and Training:

- Completed CCNA training covering TCP/IP and all core networking concepts.
- Acquired practical knowledge of GPON (Gigabit Passive Optical Network) technology & EPON
- Gained expertise in FTTH (Fiber To The Home) technology including ONT and OLT configurations.
- Covered WiFi technologies , network protocols.
- Learned ACS (Auto Configuration Server) working, configuration, and device testing.
- OLT & ONT working functionality covering all the features practical working.
- Testing procedures for various client devices

EDUCATION

Bachelor of Engineering (Electronics & Communication Engineering) Rajiv Gandhi University of Knowledge & Technologies ,Srikakulam (RGUKT-IIIT)	<i>June 2019 -May 2023</i> CGPA - 9.0/10
Class 12th - State Board Rajiv Gandhi University of Knowledge & Technologies ,Srikakulam	<i>May 2017 – May 2019</i> CGPA - 8.5/10
Class 10th – State Board A.P Model School,Cheekatigalapalem	<i>March 2017</i> CGPA - 9.7/10

PROJECTS

1.LSB image Steganography,using C

- A command-based project to encode the secret message inside a bitmap image to hide informatio

2.MP3 Tag Reader & Editor,using C

- MP3 Tag reader is a software which will read and display information from MP3 files. The software will be desktop

3.Lexical analyzer, using c

- In computer science, lexical analysis is the process of converting a sequence of characters into a sequence of tokens

4.Car Black Box,using PIC18F4580 Microcontroller

- Black Box implementation in an Automotive System to log critical events.

5.Inverted Search , using Data structures & Algorithms , C

- A command-based project developed using Hashing algorithm in DSA and C to allow text searches at an increased speed using the indexes of the words when a document is added to the database.

6.Command line test , using linux shell scripting

- Command line test is a BASH shell based tool that simulates login based online testing scenario.

7. Mini Shell using linux internals

- Mini shell application that implements inter-process communication (IPC) using pipes, manages signal handling (SIGINT and SIGTSTP), and controls process creation and termination

8. Address Book , using C

- A console-based application developed in C to manage contacts with names, phone numbers, and email addresses. Utilises standard I/O for adding, searching, editing, and deleting contacts.

ACHIEVEMENTS

- **Got selected for IIIT.**
- Led a team to develop an project in revature.
- **Dean's List** (2020-2023): Consistently maintained a CGPA of 9 or higher.

PROFESSIONAL DEVELOPMENT & TRAINING

- Completed comprehensive CCNA training (Cisco Certified Network Associate curriculum) via structured YouTube courses, covering IP subnetting (VLSM), OSPF, VLANs, and network troubleshooting
Skills:
- Networking: CCNA-level knowledge in routing protocols (OSPF, EIGRP), subnetting (VLSM/CIDR), Ethernet switching, and GPON/ONT configuration

CERTIFICATIONS & PARTICIPATIONS

- Emertxe information technologies, Bangalore, certified Embedded Engineer
- Certificate for the completion of workshop in KLA Workshop on AI and HPC in Semiconductor Manufacturing
- Four months training in 'ADVANCED VLSI DESIGN' and 'Life skills Training' conducted by the SURE Trust
- Arduino workshop by IIIT Srikakulam ,ECE Department
- Certificate for the completion of online course Python for begginers
- Certifications for the completion of C, C++ courses