Naveen Babu Krishnasamy Jeyakumar

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Professional Summary

- Good understanding of firmware, embedded software, computer architecture, operating systems, virtualization, memory management, IEEE 802.11 protocols, wireless communication systems & networking.
- 3 years of experience at Qualcomm comprising of firmware engineering & networking, systems software, virtual memory, distributed systems, RTOS, multi-threading and embedded systems. **Actively seeking summer 2025 internship opportunities.**

Education

Texas A&M University, College Station, United States   Aug 2024 – May 2026
Masters, Computer Engineering Major   *Currently in 1st Semester*
Coursework: *Operating Systems, Parallel Computing, Micro Processor System Design*

PSG College of Technology, Coimbatore, India   Jul 2016 – April 2021
Bachelors, Electrical and Electronics Engineering   *CGPA: 8.83/10.00*
Coursework: *Computer Architecture, Microprocessors & Microcontrollers, Computer Networks, Operating Systems*

Work Experience

Qualcomm Technologies, Inc. | Firmware Engineer (2.9 years)   Nov 2021 – Jul 2024
WLAN Firmware, 802.11, RTOS   *Chennai, India*

- Primarily worked in WLAN Firmware group developing functional requirements and fixing stability bugs from Internal testing teams and Customers on the latest Wi-Fi chipsets.
- Enhanced and optimized around 45 APIs related to Rate control algorithms, UL/DL MU-MIMO, Transmit Beam Forming and Implicit Beam Forming features.
- Implemented the Multi-Link Operations (MLO) feature (MLSR, MLMR) for SU TXBF and MU-MIMO applications.
- Optimized DL scheduling algorithms which improved peak performance by 5% and reduced latency on Access Points.
- Implemented SU TXBF feature for Drone applications to improve gains in medium and long range.
- Understanding of Wireless Standards 802.11 protocols, systems/MAC/Micro Code.
- Capable of thriving in collaborative, cross-functional environments across global teams and customers, participating in diverse projects throughout the product and software development lifecycle.
- Performed various tests on QCA chip-sets using lab equipment and also used tools for system stability, stress, throughput, and regression testing.
- Debugged software by analyzing performance bottlenecks and diagnosing faults on embedded targets, as well as on various WLAN technologies (e.g., GDB, shell scripting, packet tracing with tools like tcpdump and Wireshark).
- Developed new test cases in Qualcomm test frameworks based on QA methodologies for TxBF, MU MIMO and Rate control APIs.
- Acquired hands-on experience with concepts such as DMA, FIFO rings, IPCs, atomic operations, multi-threads, memory corruptions, and page faults.

Bosch Global Software Technologies | Associate Software Engineer (0.4 years)   Jul 2021 – Nov 2021
Model Based Development, Engine Management and Power-train   *Coimbatore, India*

- Engaged on Software functional development of engine management and vehicle functions for leading super car OEMs.
- Utilized AUTOSAR architectures to develop functional software for power train applications. Tools used: ASCET, Labcar, MISRA check analysis, Matlab, ETAS INCA.

EMF Innovations Private Limited | Student Intern (0.3 years)   May 2019 – Jul 2019
Motor Driver Development   *Coimbatore, India*

- Headed the design and development of Driver circuit for SRM motors using PIC microcontrollers, Current Limiter and AC to DC controlled converter for electric scooter application.

Technical Skills

Programming Languages: C/C++, Assembly, Python, Linux Shell Scripting
Tools & Frameworks: GDB Debugger, Trace32, tcpdump, GIT, Perforce, MATLAB, QEMU, ASCET, Labcar.
Protocols: 802.11, TCP/IP, UDP, I2C, UART, SPI.

Extracurricular Activities

- Active Member of Emergency Response Team (ERT) at Qualcomm, Chennai.
- Co-Chairman, Solar Energy Society of India at PSG College of Technology, Coimbatore
- Student Placement Representative at PSG College of Technology, Coimbatore.
- Organized and conveyed technical events during inter college symposiums at PSG College of Technology, Coimbatore.