

Rohith Reddy Narala

Sr Electrical Engineer

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Professional Summary

Electrical Engineer with a Master's degree and 8+ years of experience in engineering design and product development, with expertise in schematic design and hardware development. Specializing in low-power circuit design, sensors, user interfaces, haptics for wearable and consumer electronics. Skilled in PCB design, DC-DC converters, and hardware prototyping, with a strong problem-solving mindset and a methodical approach to engineering challenges

Technical skills

- **PCB Design Tools:** Altium Designer, Cadence, CAM350
- **Microcontrollers:** STM32x, PIC 32x
- **Programming Languages:** C
- **IDE:** STM32 Cube IDE, Atmel Studio, MPLAB X
- **Lab Instruments:** Logic analyzers, oscilloscopes, soldering station, DMM, DAQ
- **Protocols:** I2C, UART, SPI, DSI, CSI, USB, PCIe
- **Applications:** wearable, portable devices, Sensing & Peripheral Interfacing, Handheld, Haptics and Piezoelectric sensors.

Experience

Hardware Development engineer - Amazon Labs 126

May 2025 -Current

- Developing next-generation Fire TV hardware platforms.
- Involved in New Product Development (NPD), R&D, and Proof of Concept creation

Sr Electrical Engineer - Meta @ LTTs

July 2022 – Feb 2025

- Developed hardware devices from proof-of-concept to manufacturing and testing.
- Led the engineering design of Proof of Concept (POC) projects involving MLB (Main Logic Boards), FPC (Flexible Printed Circuits), and Interposer boards, delivering innovative and scalable solutions
- Coordinated with PCB Fabrication and assembly vendors to optimize design for manufacturability (DFM) and ensure high-quality production
- Worked closely with cross-functional teams of ME, RF, ID, PCBA to meet project timelines, resolve technical challenges, and deliver cost-effective, high-performance hardware solutions.
- Proficient in schematic capture, PCB layout, and simulation tools, with hands-on experience in prototyping and testing complex electronic systems
- Conducted thorough component selection, ensuring optimal performance, cost-efficiency, and reliability for system requirements.
- Written and Performed rigorous testing and validation plans of subsystems to ensure functionality, performance, and compliance with design specifications.
- Led board bring-up activities, including power-on testing, firmware integration, and debugging to identify and resolve hardware and firmware issues
- Design and review schematics and PCB layouts using Altium, Orcad CIS and Allegro adhering to design best practices for high-speed, analog, and power signals.

Electrical Engineer II – Advance Design, Milwaukee Tool

March 2021 – June 2022

- Advance Design role - Research, System Design, Prototype new concepts to burn down the risk for NPD projects in pipeline
- Collect and refine specifications for projects from marketing.
- Select and recommend Sensors and peripherals for NPD
- Designing schematics and PCB Layout using Altium Designer
- Identify forced rank list of features for the project

- Collaborate with Mechanical, Concept, Firmware Engineers and Technicians to work on different aspects for concept and understand Risk for NPD.
- Build prototype, test, analyze results

Electronics Engineer, T & L Co

August 2016 – February 2021

- Designing PCB schematics and PCB Layout using Altium Designer
- Designing hardware circuitry to interface microcontrollers & other devices, prototyping, and mass production release
- Troubleshooting Circuit boards to component level with bench equipment and final inspection of daily orders
- Firmware development and bug fixes in Embedded C language for existing Systems using MPLAB X IDE, AVR studios
- Design Reviews and Documentation: record designs, simulation results, and test results in an organized manner that can be shared and communicated with others. Conduct formal design reviews on a regular basis
- Execute all aspects of design validation including prototyping, lab and field testing, pilot and initial production runs
- Set up test bench in lab for simulation and writing test scenarios with work instructions for testing and validation for production testing
- Program embedded boards using GPS RTK NMEA commands to make vehicle navigate the predefined path with sub inch accuracy
- Research and Design of wireless communication networks for existing PLC board using various communication protocols I2C, UART, SPI
- Analyze serial communication using Oscilloscope and software tools to debug communication problems

Research Assistant, University of Arkansas

August 2014 - December 2015

- Research Focused on Medical Devices, Wearable Devices for monitoring Bio-potential signals like ECG, EMG, EEG, Pulse rate (Photolithography), Body Area Network, Brain Machine Interface
- Bio-Potential signal Acquisition and Filtration
- Worked on various communication platforms like Bluetooth, ZigBee, GSM, WI-FI and I2C
- Experience in interfacing various wireless modules for transferring data from microcontrollers
- Research includes Analyzing the feasibility studies related to the design, development, and implementation of firmware and algorithms for various research projects.
- Undertake research works by preparing, setting up, conducting, and recording the outcome of experiments and field work, the development of questionnaires and conducting surveys, using straightforward mathematical modeling or scientific computation

CURRICULUM PROJECTS

“Wireless Monitoring of Drivers Pulse Rate and Temperature Using Hand Gloves Approach” - Wearable Wireless Device

- Master’s Thesis project
- Design, Develop and Prototype a new design to monitor health of car driver using hand gloves while driving
- Perform feasibility study for light-based sensor to use PPG transmittance and reflectance techniques into project
- Use GSM, GPS and Bluetooth technology to wirelessly transmit the data to the health care monitoring unit for analyzing abnormalities, Log data, track location and send Alerts when abnormality is detected.
- Program PIC Microcontroller in transmitter and Receiver end using Embedded C programming
- Interface various wireless communication modules with transmitter and receiver and a data-storing device

“Real Time monitoring of Drivers Respiration and other disorders using Seat belt approach”

- Introduce a new design to monitor respiration while driving using seat belt of a vehicle to monitor respiration and various other disorders of the driver health using piezoelectric sensor
- Develop Software and a BAN (Body Area Network) to detect abnormalities while respiration.
- Perform various test in real time with test scenarios

Education

University of Arkansas, College of Engineering

Fayetteville, AR

MS in Electrical Engineering, GPA 3.6/4.0

2015

Thesis: *“Wireless Monitoring of Drivers Pulse Rate and Temperature Using Hand Gloves Approach” - Wearable Wireless Device for Driver’s using GPS and GSM.*

