

Rahul Gangwani

Embedded Systems Engineer

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<https://rahulgangwani.github.io>

OBJECTIVE

I am a **highly motivated, hard-working, and experienced** Computer Engineer specializing in **embedded software** and **firmware** design and test. I am able to efficiently and effectively collaborate in a team environment or lead a team to help transform ideas into innovative devices. My goal is to use my skills and expertise to make an impact as an **embedded systems engineer in the medical device industry**.

WORK EXPERIENCE

Texas Instruments

Dallas, TX

Test Engineer - Custom Analog Automotive and MSP430 Microcontrollers

Jun 2020 – Present

- Develop novel test programs that verify proper functionality of cutting-edge devices that are then sent out worldwide to 230+ priority customers
- Coordinated and diagnosed with TI Labs and vendors to help pilot test and verify 2,500 new customer devices across 3 different PCBs, resulting in an estimated \$1.4B in revenue
- Organized detailed schematic and code reviews as part of the test program development process, which helped to identify errors that would further delay project timeline
- Diagnosed and solved hardware and software issues by collaborating with teams in China and Taiwan, leading to a 5-6% yield improvement
- Optimized performance of existing test programs through test time reduction strategies, leading to a 15 - 30% test time savings and overall projected cost savings of \$0.0041 per device

University of Michigan

Ann Arbor, MI

Graduate Student Instructor and Research Assistant (C++ and Embedded Systems)

Aug 2018 – Jun 2022

- Created and tested over 20 unique test programs in order to assess the students' strength of knowledge in programming and embedded systems
- Fabricated a Bluetooth Low Energy (BLE) eyedropper bottle incorporated with sensors and a custom-made PCB in order to determine if a patient has regularly taken their scheduled eyedropper medication on time, which would help more than 1.9% of the world's population suffering from uncontrolled glaucoma
- Integrated machine learning algorithms on the embedded device to classify at a 94% accuracy whether or not the eyedropper medication was dispensed based on the exported sensor data from an iOS app developed in Swift

EDUCATION

UNIVERSITY OF MICHIGAN

Ann Arbor, MI

Masters of Science in Engineering

Aug 2018 - Jun 2020

- Major in Computer Engineering, Specialization: Embedded Systems
- Relevant Coursework: Advanced Embedded Systems, Embedded Systems Research, and Parallel Computer Architecture

PURDUE UNIVERSITY

West Lafayette, IN

Bachelors of Science in Engineering

Aug 2014 - May 2018

- Major in Computer Engineering, Minor in Psychology
- Relevant Coursework: Microcontrollers/Microprocessors, Embedded Systems and IoT, Advanced C Programming

CERTIFICATES, PAPERS, AND SKILLS

Papers:

Payne, N., **Gangwani, R.**, Barton, K., Sample, A. P., Cain, S. M., Burke, D. T., Newman-Casey, P. A., & Shorter, K. A. (2020). Medication Adherence and Liquid Level Tracking System for Healthcare Provider Feedback. *Sensors (Basel, Switzerland)*, 20(8), 2435. <https://doi.org/10.3390/s20082435>

Certifications:

Medical Devices Quality Management System - ISO 13485:2016

Skills:

C/C++/Assembly, Python, PCB, Microcontroller, Linux Device Drivers, RTOS, Computer Architecture Design, Verilog, LabView, Data Structures and Algorithms, FPGA, Swift and iOS development,