

Ashvin Roharia

Senior Embedded ML Solutions Engineer

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WORK EXPERIENCE

Edge Impulse Austin, TX

Senior Solutions Engineer Embedded ML Team July 2022 – Present

- Led engineering teams to create industrial and health embedded ML solutions
- Involving QR code detection, license plate detection, keyword spotting, cough detection, pest detection, forklift motion characterization, O&G gauge reading, etc
- Presented demos and developed docs for conferences (IoT in O&G, Imagine)
- Created an Intro to Embedded ML Course taken by ~2000 students

Silicon Labs Austin, TX

Software Engineer II IoT RF Software Team Mar 2020 – July 2022

Radio Abstraction Interface Layer Library

- Developed low-level APIs and fixed bugs for wireless IoT chips in C
- Worked on TrustZone, Z-Wave, channel hopping, timing, clock gating, packet reconfigurations, memory management, TX/RX, Jenkins test and build coverage
- Developed app to analyze library's RAM/stack and flash usage after each commit

Boot Code

- Sole developer of the boot ROM and bootloader for next-gen 8-bit MCUs in C/ASM
- Sole tester of boot code for bringups in our 3 next-gen MCUs

Firmware Engineer IoT MCU Firmware Team Jan 2018 – Mar 2020

Bluetooth Xpress – Serial to Bluetooth Bridge

- Developed low-power embedded software demos for new BLE products for embedded systems conferences and a customer-facing SDK
- Created streaming tests to allow long term reliability testing and throughput measurements

USB Xpress – USB to UART Bridge

- Released updated library after fixing multiple bugs and customer requests
- Added new features; user-suspend configuration, zero-length-packet termination, etc.
- Set up library builds in Jenkins

Firmware Engineer Intern IoT MCU Firmware Team May 2017 – Aug 2017

Touch Xpress – Capacitive Button Controller

- Setup an automated capsense test platform using grounded pads to simulate touches

Intel Austin, TX

Firmware Engineer Intern IoT SoC Power Management Team Mar 2016 – Aug 2016

- Fixed bugs in C for a power management controller on a pre-silicon IoT SoC

AMD Austin, TX

Validation Engineer Intern Server Validation Team Aug 2015 – Jan 2016

- Loaded ASM microcode patches and helped debug Alpha customer issue
- Tested SATA ports on ARM server chip revisions through python scripts for 2 bringups

Malauzai Software, A Finastra Company Austin, TX

Team Lead Software Engineer Intern Mobile App R&D Team

May 2015 – Aug 2015

- Led a team of three interns to research competitors' mobile app designs and features

Software Engineer Intern Software Development Team

May 2014 – Aug 2014

- Found and reported bugs in our mobile banking app on iPhones, iPad, and Android

EDUCATION

Georgia Institute of Technology Atlanta, GA

Master of Science, Computer Science (3.9/4.0)

Aug 2020 – Dec 2022

I. Computing Systems

II. Embedded Machine Learning

The University of Texas at Austin Austin, TX

Bachelor of Science, Electrical & Computer Engineering (3.30/4.0)

Aug 2013 – Dec 2017

I. Software Engineering and Design

II. Embedded Systems

C	8051/ARM Assembly	Python	JAVA	C++	HTML	Batch	VHDL	English	Hindi
Bluetooth	Z-Wave	Zigbee	UART	USB	SPI	I2C	ADC/DAC	GPIO	
Oscilloscopes	Logic Analyzers	USB Protocol Analyzer				Jenkins	IDEs	Git	

PROJECTS

Acoustic Event Detection Algorithm & GUI

- Developed a Python script to train a kNN ML model and classify real-time audio
- Developed a real-time Python GUI to display the mic audio signal, frequency spectrum, and classification

Active Noise Cancellation Embedded System

- Designed a PCB to interface between our code and the LCD screen, mic, headphones, DAC, ADC, etc.
 - Used C to develop an active noise canceling algorithm
 - Filmed a YouTube video demonstrating and explaining the embedded system
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