Ashvin Roharia

Embedded ML Solutions Engineer

Austin, TX 512-239-8021 aroharia@gmail.com roharia.com

WORK EXPERIENCE

Edge Impulse Austin, TX

Embedded ML Solutions Engineer Enterprise Solutions Team July 2022 – Present

- Led engineering teams to enable embedded ML solutions with multiple customers
- Presented demos and developed docs for conferences (IoT in O&G, Imagine)

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, adding test coverage, improving Jenkins flow
- Developed app to analyze library's RAM/stack and flash usage after each commit
- Worked on fixing bugs in RAIL library

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
- Boot ROM is entered on MCU reset and debug interrupt vector to handle startup
- Bootloader is entered if there's no user code or on a boot pin to load applications

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
- Validated new customer-facing board revisions

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

- Created python module to control a capsense testing robot
- Added touch detection analysis to characterize a touch as pass or fail
- 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

- Worked on the power management controller on a pre-silicon IoT SoC
- Fixed multiple firmware bugs on Linux in C
- Ran emulation test which involved cloning, changing parameters, and running scripts

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
- Built a GUI using XAML, C#, and python in Visual Studio to replace an outdated GUI used to test chips

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
- Used Ruby to automate the process of looking up banks in the iTunes store

Software Engineer Intern Software Development Team May 2014 – Aug 2014
- Found and reported bugs in our mobile banking app on iPhones, iPad, and Android
- Worked with a mentor to fix bugs in objective-C and JAVA

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	FPGA Debug	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