

Fahad Mirza

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Summary:

An Embedded Engineer with expertise in rapid hardware prototyping, firmware development, and testing.

Skills:

Languages	: C, Python; Familiar with: C++, MATLAB, Assembly, LabVIEW;
Electronics	: SMD Soldering, Bus Analyzer, Oscilloscope, Debugger, Spectrum Analyzer;
PCB	: Eagle, Proteus;
Protocols	: I2C, SPI, UART, RS485, DMX512, RS232;
IoT	: LoRaWAN; Familiar with: Bluetooth 5, RFID, ZigBee, MQTT, AWS;
Concepts	: Unit Test, TDD, Version Control, SQLite, JSON, Google style guide, Static code analysis, Misra C;

Professional Affiliation:

Embedded System Engineer | 7-Eleven Cashierless Irving, Texas 04/2019 – Present

- Leading the hardware development for our cashier-less stores.

Firmware Engineer | Haxiot Inc. Plano, Texas 03/2017 – 03/2019

- Led the firmware development of LoRaWAN software stacks for a modem. Reduced modem power consumption by 95%. Designed two LoRaWAN developer kits and developed both C and Python library.
- Assisted our manufacturer by developing a Windows application to flash and test batch of modems simultaneously during production and then scan QR of the modems using OpenCV.

Embedded System Engineer | Next Gen Systems Arlington, Texas 06/2014 – 07/2016

- Collaborated with three multidisciplinary teams to provide custom-designed hardware solutions for robots to use various types of analog/digital sensors and interfaced them with Robot Operating System.
- Automated MEMS sensor fabrication process and sensor characterization testbed that reduced the production time by 90%, halved the wastage, and nearly doubled the amount of data collection.

Technical Lead (TechshopBD) | Pi Labs Bangladesh Ltd. Dhaka, Bangladesh 04/2012 – 07/2013

- Tripled the product sale within 6 months with the help of a dedicated team and by emphasizing on local quality production and customer relations.
- Designed development kits, wrote tutorials, provided technical support, and handled customers first-hand.

Embedded Firmware Engineer | Pi Labs Bangladesh Ltd. Dhaka, Bangladesh 08/2010 – 03/2012

- Designed the initial iteration of our Vehicle Tracking System hardware and developed the device driver for the onboard components.

Academic Projects:

Remote Sensor Monitoring – build a low-cost IoT system that remotely monitored sensors (temperature, humidity, force), using Wi-Fi SoC that supports full-stack TCP/IP and Microsoft Azure IoT service.

Academic Credentials:

M.Sc. in Electrical Engineering, The University of Texas at Arlington (UTA), May 2016.

B.Sc. in Electrical Engineering, Ahsanullah University of Science & Technology, July 2009.