

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.
- Developed Windows application, using PyQt, for our manufacturer that flash and test batch of 16 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 solve challenges in sensor integration for robots, from developing hardware, their associated firmware to interfacing them with Robot Operating System.
- Automated MEMS sensor fabrication process and sensor characterization testbed that reduced the production time by 90% and halved the wastage.

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 relation.
- 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.
- Led a quality control team of three. Debugged and tested numerous hardware of 9 different products.

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.