George Hahn

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Full stack IoT Dev: Hardware, firmware, software

   I leverage a breadth of experience to build connected systems from the ground up. My toolkit is built around two pillars: pragmatic hardware expertise and MQTT.

Skills – Software

Languages: C, C++, Python, Node.js, .Net
Running on: Bare metal/Linux/FreeRTOS/
        AWS/Azure/Google IoT
Databases: InfluxDB, Postgres, Firebase
Tools: Git, Gitlab CI, Platform.io, Docker

Skills – Hardware

Wireless: BLE, Wifi, Cellular, LoRa,
        proprietary sub-GHz
Protocols: I2C, SPI, CAN, UART,
        USB, I2S, DDR, DDR3
Tools: Altium, OrCAD + Allegro

Capabilities – Software

Application code, drivers, bootloaders
Firmware debugging
Using agile methodologies and continuous integration to ensure quality

Capabilities – Hardware

Design for manufacture & automated test
Ridiculously fast prototyping
Hardware bringup and validation
Hardware rework and modification

Professional experience

Lab 651 – 2016-2017 – Embedded Software/Hardware Engineer

      Consumer IoT device – Altium, Xilinx 7 series FPGA, DDR3, high speed ADC
      Connected automotive logging device – Allegro, Altium, OpenWRT, Python, MQTT
      Multiple BLE devices using Nordic SoCs
      Firmware lead on three projects including embedded Linux (Yocto, OpenWRT)

Independent Contractor – 2014-2017

      Designed Linux BLE gateway software for livestock tracker – Node.js, MQTT, Google IoT
      Designed audio interface for educational application – Hardware & plastic enclosure

NJIT Smart Initiatives and Innovations Lab – 2016 – Research Assistant

      Designed device to enable generic sensor array measurement using wifi
      Built Linux system to facilitate data capture and analysis
      Coauthored *Bio-Enabled Façade Systems - Managing Complexity of Life through Emergent Technologies* (ID: eCAADe2016_102)

Upverter – 2013-2015 – QA, Customer Success

      Designed hardware to test EDA design system
      Wrote documentation and tutorials

Circuit Works Inc – 2009-2013 – Embedded Engineer, Hardware Technician

      Wrote firmware to replicate OEM functionality in third party automotive electronics
      Debugged returned hardware to find root cause of failure and improve products