DANIEL RUSH

Senior Firmware Engineer

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EXPERIENCE

Senior Software/Firmware Engineer

Carbon, Inc.

📅 June 2017 - Ongoing   📍 Redwood City, California

- Built a motor controller from the ground up to communicate and integrate into the stack of the 3D printing system.
- Played an integral role in building and maintaining the firmware and low level software of the core platform.

Associate Fimware Engineer

California Mechatronics Center

📅 November 2017 - May 2017   📍 Chico, California

- Developed firmware for an earthquake sensing system using MQTT and USB storage for data transmission and redundancy.
- Worked on verilog HDL for FPGA based sensor system

PROJECTS

Motor Controller

Carbon

- FOC Motor controller
- Absolute or Relative encoder control
- USB Logging
- UART interface
- SPI controlled FET-Driver chip
- Safety Fault behaviors and detection
- Custom nested control algorithm
- High-Speed control

Oxygen Subsystem

Carbon

- Oxygen concentration and distribution system
- I2C based
- Heart of printing process
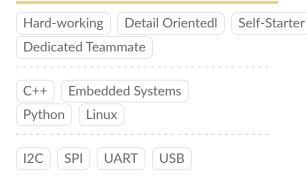
Open Source Firmware communications

uComs

- Ongoing project to make starting an embedded project's communication protocol easy and generated
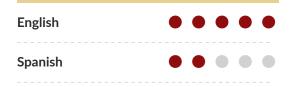
MY LIFE PHILOSOPHY

"Break things, fix things, build things"

STRENGTHS

Hard-working   Detail Orientedl   Self-Starter   Dedicated Teammate

C++   Embedded Systems   Python   Linux

I2C   SPI   UART   USB

LANGUAGES

English   ●●●●●

Spanish   ●●○○○

EDUCATION

B.Sc. Mechatronics Engineering

CSU Chico

📅 Aug 2013 - May 2018

B.Sc. Computer Engineering

CSU Chico

📅 Aug 2013 - May 2018

MY IDEAL ROLE

Collaboration   Working on tools   Firmware Work   Integration and Testing