Erick Fuentes

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Relevant Skills:

Languages: Experienced with Python, C, Java, MATLAB. Familiar with HTML, CSS, Javascript, Shell Scripting, LabVIEW.

Software: EAGLE, Solidworks. Subversion, Git.

Platforms: ARM Cortex-M, AVR, Windows, Mac OS X, Linux.

Protocols: CAN, UDS, CANOpen, SD/MMC, USB, TCP, UDP, Serial, SPI

Misc: Experienced with rapid prototyping techniques (water jetting, laser cutting, 3D printing). Familiar with traditional machining techniques (milling and turning), layup of composites, and Motor Control. Fluent in Spanish.

Education:

Massachusetts Institute of Technology – Cambridge, MA
Degree: Masters of Science in Mechanical Engineering, Expected June 2015
Degree: Bachelors of Science in Aeronautics and Astronautics, June 2011

Previous Experience:

XL Hybrids – Boston, MA
Design Engineer, September 2011 – January 2014

- Developed data collection system that has logged over 17,000 hours and over 361,000 miles of customer data.
- Designed, prototyped, tested and contracted out vehicle control unit that cut costs by 75% compared to previous off the shelf solution.
- Architected software and build process to be easily adaptable to different vehicle, battery and inverter platforms.
- Wrote and verified robustness of various low level peripheral drivers.
- Created bootloader that has enabled remote wireless updating.
- Automated programming/test rig for use at contract manufacturer.
- Developed fault reporting infrastructure to proactively diagnose field complications without customer intervention.

MIT Electric Vehicle Team – Cambridge, MA
Team Member, June 2010 – January 2013

- Designed and implemented data logging system with use of National Instruments hardware and LabVIEW for EV retrofit.
- Integrated battery management system and motor controller with vehicle communication systems.
- Designed, fabricated, and wind tunnel tested motorcycle fairings that reduced drag by 5% in 60-120 mph range. Motorcycle placed 4th in 2011 Isle of Man TT.
- Negotiated donation of Tesla Roadster powertrain, valued at $15,000.

Personal Projects:

- 8x8x8 LED Cube – Controlled via Arduino with a Java GUI. Laser cut enclosure.
- Turner's Cube – Machined out of an aluminum cube. Learned basic milling and turning operations.
- Various STM32F4 projects: WS2812 light strip, WiFi and 802.15.4 radios, USB stack from scratch.
- Python wrapper for Kvaser CAN-USB interface.
- Aided with prototype 3D printer network hub based on Raspberry Pi and Django website. Went on to raise $300K in seed funding.