Daniel Strohfeldt – Firmware Engineer

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Education

- **University of Wisconsin - Milwaukee** — Milwaukee, WI
  Bachelor of Science in Computer Engineering; GPA: 3.5 — *2012 – 2017*
  - **Vice President of IEEE**: Managed sales and creation of lab kits for all Electrical Engineering courses. Held seminars for student enrichment. Managed lab equipment for use by students. Brought in local industry experts to increase student exposure to real world engineering problems.

Experience

- **Tesla, INC.** — Palo Alto, CA
  Firmware Engineer - Intern — *Jan 2017 - Present*
  - **Software in the Loop - Body Controls Firmware**: A tool used to validate and verify new firmware features and test regressions on existing features, without existing hardware.
    - One of three core developers of the Body Controls team's software in the loop platform. Which is used daily by 7-9 firmware validation engineers and 20 - 25 firmware engineers reap the benefits of.
    - Developed firmware drivers and implemented front end for non-existent features and maintained existing features of the platform.
    - In my first 2 weeks, I implemented a new algorithm for creating viewable IO traces from the firmware, resulting in 20x speedup.
  - **Validation - Body Controls Firmware**: Validation and verification of new firmware features.
    - Tested Model S and X E-Fuse self test behaviors without existing hardware. Created regression test suite for Model S and X E-Fuse manufacturing self test, resulting in saved 12 volt batteries.
    - Developed tests for manufacturing ride height calibrations and installations of both air suspension and coil suspension for Model 3.
    - Tested new features of the Model 3 steering column adjustments which couldn't be verified using Hardware.
- **University of Wisconsin - Milwaukee** — Milwaukee, WI
  Research Assistant — *Aug 2015 - Jan 2017*
  - **Non-Destructive Evaluation - Magnetic Flux Leakage**: Robotics project funded by the United States Federal Highway Administration.
    - Designed and fabricated sensor payload, used to detect and track magnetic flux leakage in 3 axes.
    - Developed real-time data visualization software for field scans of reinforced concrete structures.
    - Developed post-processing software to isolate areas of structural defect, in order to identify locations at which the structure should be reinforced.
    - Wrote reports for the USFHWA, to show progress and relay technical information in a way that the layman could understand.
- **EDCS Power** — Mequon, WI
  Electrical Engineer - Intern — *May 1015 - Aug 2015*
  - **Data Acquisition and Control Algorithm**: Start-Up company focused on creating high efficiency uninterruptible power supplies for servers.
    - Developed sensing circuitry for 100 kW AC to DC power supply.
    - Developed technology for syncing function generators in order to create 3 phase waveforms.
    - Worked on gate drive circuitry. Tested Silicon Carbide mosfets to determine characteristics unknown to the data sheet.
    - Worked with Microsemi FPGA to implement control algorithm used to switch the three phase 380V AC power to +/- 190V DC power.
- **City of Madison** — Madison, WI
  Civil Engineer - Intern — *May 2014 - Sept 2014*
  - **East Johnson Street**: 10 million dollar road construction project in Madison, WI.
    - Coordinated with multiple engineering firms and construction companies, to effectively meet project deadlines.
    - Oversaw construction crews to ensure project plan was followed and city building codes were met.
    - Recorded accurate measurements and data used to determine payment for contracted construction companies.