

# Daniel Strohfeldt – Firmware Engineer

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## EDUCATION

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- **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.

## EXPERIENCE

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- **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 2015 - 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.