

Dan Nichols

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Summary

Senior BSE-EE + BSE-CE student with 7 years of FIRST Robotics Competition experience. Experienced with development and testing of both electronics and software at Ford, Continental, and in FRC.

Experience

EPAS Mechatronics Summer Intern: Summer 2020

Ford Motor Company PD Chassis Steering

- Developed proprietary steering software for future vehicle features using model-based design
- Conducted simulated and in-vehicle testing to refine new software and improve models
- Wrote extensible pre-processing software for connected vehicle data analysis

AV Brake Controls Summer Intern: Summer 2019

Ford Motor Company PD Chassis Controls

- Designed a wheel speed sensor emulation system for the AV Brake HIL test setup
- Integrated the WSS emulation system with CarSim and the AV MIL vehicle model using Simulink
- Wrote highly optimized AVR C++ code with inline assembly for real-time protocol generation

EE Hardware Summer Intern: Summer 2018

Continental Automotive Systems Interior Body & Security ATC

- Designed and operated an automated EMC test setup for RF modules using Vector CANoe
- Created a thermal model and conducted testing to evaluate IC performance
- Operated thermal parametric testing for multiple projects

Lead Design Mentor: June 2019 – Present

FIRST Robotics Team 548, Robostangs – Northville High School

- Lead students to design and manufacture award-winning competition robots
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KEY SKILLS

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| • MATLAB/Simulink/Stateflow Software | • Vehicle Software Design / Testing |
| • Model-Based Design / HIL Testing | • C/C++ Programming – AVR/Arduino |
| • Embedded Control Algorithms | • GitHub Version Control |
| • Data Processing / VBA Scripting | • SOLIDWORKS CAD (Certified Associate) |
| • Electronics Debugging / Test Equipment | • CNC/Manual Machining and Fabrication |
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EDUCATION

BSE – Electrical Engineering, BSE – Computer Engineering: April 2021, GPA 3.99

University of Michigan-Dearborn

