Thomas E. Smallarz

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SUMMARY

Full-time Embedded Software Engineer developing Engine Control applications in Bare Metal and RTOS environments. My current project work involves writing low-level fuel system drivers and applicaiton code for fuel scheduling. Previously I've spent time developing embedded security implementations using on-board cryptography modules.

SKILLS

Languages: C, Python

Tools: GitHub/Mercurial, Docker, NPM, Embedded Debugging Platforms, MATLAB

EDUCATION

Bachelor of Science in **Electrical Engineering**   August 2017 - May 2021
North Dakota State University, Fargo, ND
3.70/4.0 - Magna Cum Laude Honors

EXPERIENCE

Embedded Software Engineer II - Engine Controllers   August 2023 - Present
Embedded Software Engineer - Engine Controllers   June 2021 - August 2023
John Deere Intelligent Solutions Group, Fargo, ND

- Developed embedded software to drive fuel-system components (injectors, boost supply, high pressure fuel pump) and schedule fueling
- Developed an embedded security implementation to enroll and interface with Company's Device Life-cycle Management System utilizing cryptography module

Electronic Design Part-Time Student Intern - Telematics   June 2020 - June 2021
John Deere Intelligent Solutions Group, Fargo, ND

- Supported the design and development of Bluetooth, GPS, LTE, and Wi-Fi products by assisting author Engineering Design Notes, schematics, find cost-saving opportunities, and performing circuit verifications on pre-build units to ensure compliance with Stakeholder requirements
- Helped maintain current production through qualifying new parts due to obsolescence and allocation issues
- Provided market analysis by bench-marking and determining estimate costs of competitor electronics

Electrical Design Engineering Co-op - Wheel Loaders   April 2019 - April 2019
CNH Industrial, Fargo, ND

- Designed machine software test procedures to meet Stage-V emissions compliance, and meet other product definitions and technical requirements
- Provided initial testing and diagnosis of development machine software and hardware to ensure compliance with standards and communicated with Software Development and Product Validation teams to solve issues
- Participated in and supported prototype builds and product launches