

Thomas E. Smallarz

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SUMMARY

Full-time Embedded Software Engineer developing Engine Control applications in Bare Metal and RTOS environments. Most of my current project work involves writing low-level drivers and application code to the fuel system. Previously I've spent time developing embedded security and cryptography implementations.

SKILLS

Languages: C, Python

Tools: GitHub/Mercurial/SVN, 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 - Engine Controllers

June 2021 - Present

John Deere Intelligent Solutions Group, Fargo, ND

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