

# Thomas E. Smallarz

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## SUMMARY

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Full-time Software Design Engineer with experience developing Engine Control applications for PowerPC and ARM embedded targets. My current project work mostly involves operating-system level work, focused on embedded security and cryptography implementations. I am seeking opportunities within the field of embedded security.

## SKILLS

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**Languages:** C, Python, Rust

**Tools:** GitHub, Green Hills Tools Suite, MATLAB

## EDUCATION

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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

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**Software Design Engineer - Engine Controllers**

June 2021 - Present

*John Deere Intelligent Solutions Group*, Fargo, ND

- Designing and developing 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