## CONTACT

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| --- | --- |
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| (816) 785-4105 |  |
| Pella, IA |  |

## EDUCATION

**MS Computer Engineering**

Missouri University of

Science & Technology

*Rolla, MO*

August 2017 - May 2019

**Emphasis in Embedded Systems**

**BS Computer Engineering**

Missouri University of

Science & Technology

*Rolla, MO*

August 2013 - May 2017

**Minors in Computer Science & Mathematics**

## SKILLS

C / C++

Qt & QML

Matlab / Simulink

Linux / Embedded Linux

SAE J1939 - CAN bus

Git

CI / CD

Unit testing

Software requirements

JIRA project management

Hardware troubleshooting

Electronic/Hydraulic systems

Makefiles

## EXPERIENCE

Vermeer Corporation*Pella, IA*

Embedded Software Engineer II May 2021 – Present

Embedded Software Engineer I May 2019 – May 2021

Embedded Software Engineer Co-Op May 2018 – Dec. 2019

* Develop machine control software for Vermeer's next generation horizontal directional drills using C/C++ and Simulink and display software in Qt/QML.
* Architect the software, hardware, and system integration of a common platform for all next-generation horizontal directional drills, designing for current and future needs such as automation and operator-less machines.
* Bring the first horizontal directional drill on the common platform, the [Vermeer D550](https://youtu.be/GklTx4LEOnM), to market.
* Work extensively on common hardware abstraction layer C code, integrating multiple hardware variants into a consistent core layer.
* Introduce CI/CD workflows using Github Actions, replacing manual builds and tests.
* Collaborate with hardware vendors to introduce new controller hardware, purpose-built for Vermeer's needs, and oversee its adoption into the existing programming environment.
* Develop a communication scheme based on SAE J1939 DM14-DM16 messages for automatic adjustment, retention, and secure transferal of protected parameters between machine control units.
* Complete an accelerated project to port legacy software to new hardware when supply chain constraints threatened key product lines.

Garmin International*Olathe, KS*

Embedded Software Intern, Aviation Oct. 2015 – May 2016

* Worked as part of a team to develop kernel layer drivers and interfaces for Garmin's G1000-G5000 series cockpit display solutions.
* Completed a refactor of part of Garmin's module testing environment to allow for enhanced software verification at the system level.

The Boeing Company*St. Louis, MO*

IT Intern, Business Systems Data Warehouse & Analytics May 2015 – Aug. 2015

* Gained experience working in a large corporate environment.
* Assisted in updating and rewriting finance web portal code.