Stuart Miller

Embedded Software Engineer

CONTACT

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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, 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.