

Thor J. Hanson

Fargo, ND

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Embedded software developer eager to further develop skills while acquiring new ones.

Work Experience

Appareo Systems (Fargo, ND)

Embedded Software Developer, Aviation Department

October 2021 to Present

- Responsible for embedded software development of recently-released flight data recorder.
 - Developed embedded Linux applications in C++ and Python and integrated using Yocto.
 - Corrected misuses of Yocto SDK, simplifying developer setup.
 - Wrote nRF9160/Zephyr application code in C, implementing key cellular upload feature.
 - Worked closely with cloud software engineer to design integration with cloud product.
 - Simplified boot sequence and increased reliability by adjusting systemd unit files.
 - Performed image tuning experiments to improve video quality in varied lighting conditions.
 - Developed data offload integration to complementary product, a crash-resistant recorder.
- Wrote and conducted automated hardware-in-loop tests for flight data recorder using Pytest.
 - Automation eliminated human error and variability in tests requiring precision.
 - Reduced manual intervention which freed up more days for development.
 - Ability to continuously run tests revealed subtle bugs.
- Took a key role in migrating existing cloud product to new Amazon EC2 instances.
 - Upgraded Ansible configuration and simplified topology.
 - Upgraded Jenkins build server and integrated with Ansible for deployment.
- Maintained and configured Jenkins servers for building embedded and cloud software.
- Passionately advocated for code quality while acknowledging importance of new feature work.
- Used oscilloscope for troubleshooting hardware and software.
- Advised manager on electrical engineering related support requests.

Voxtelesys (Fargo, ND)

Software Developer

May 2020 to October 2021

- Designed and implemented a VoIP API, with back-end in Go and front-end in Node.js.
- Repackaged software into Docker containers and deployed with Docker Compose.
- Organized ZFS/NFS storage pools for robust storage and backup of company data.
- Deployed new GitLab server and migrated company projects.

John Deere Electronic Solutions (Fargo, ND)

Part-Time Student Worker (Software Department)

March 2019 to May 2020

- Wrote and modified Python plugins for test framework.
- Configured build jobs using Jenkins.

Part-Time Student Worker (Electronic Design)

March 2018 to March 2019

- Tested new part for compatibility with existing design.
- Tested units for defects and design flaws.

Skills

- Enjoy working in small teams or as an individual contributor.
- Value writing software that is clear and easy to understand.
- Have a passion for system administration and self-hosting.
- Comfortable administering Debian and Ubuntu Server and working with systemd.
- Excellent at learning on-the-job and self-teaching.

Education

North Dakota State University (Fargo, ND)

Bachelor's Degree in Electrical Engineering

GPA: 3.735

May 2020