

David J. Ryan

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EXPERIENCE

ROBOTICS ENGINEER | WALMART ADVANCED SYSTEMS AND ROBOTICS - INDUSTRIAL ROBOTICS

Sep 2023 - June 2024 | Lincoln, NE

- Lead the commission of an experimental site of 120 warehouse robots that are responsible for inventory management.
- Brought the system online and up to production speed through analysis and troubleshooting
- Developed software and scripts to optimize production flow and communication between individual systems

EMBEDDED SOFTWARE ENGINEER | BLUE ORIGIN, HONEYBEE ROBOTICS - AEROSPACE ROBOTICS

Summer of 2022 | Los Angeles, CA

- Wrote from the ground up the control software to dynamical manage a sub-orbit Og research experiment for mining asteroids.
- Engineered and fabricated a multi-protocol transceiver PCB to communicate between in-house hardware and proprietary Blue Origin hardware.
- Using signal processing, filtered and interpolated the experiment data into a useful format for the client.

NASA RESEARCH ASSISTANT | UNIVERSITY OF NEBRASKA LINCOLN - ROBOTICS DEPARTMENT

Aug 2023 - May 2024 | Lincoln, NE

- Assisted in NASA funded research to test a robotic surgery device in flight on the International Space Station (ISS).
- Designed and assembled the internal electronics responsible for operating the experiment.

COMPUTER ENGINEERING INTERN | VIRTUAL INCISION CORPORATION - MEDICAL ROBOTICS

Summers of 2019, 2020, 2021 | Lincoln, NE

- Developed a driver for the STM32 micro-controller family and the TI LDC1101 inductance to digital converter.
- Constructed and tested an inventory temperature monitoring and alert system as well as a highly sensitive camera equipment calibration device.
- Wrote detailed Software Specifications for a manufacturing software code base.

SOFTWARE ENGINEERING INTERN | RICOH - ELECTRONICS COMPANY

Spring 2022 | Lincoln, NE

- Participated in a core team dedicated to providing a well-defined vision and framework for Ricoh's Digital Services strategy, portfolio, and road-map.
- Experimented with a new web based open source fax protocol.

SKILLS

Technical Abilities

- Capable with Linux based Operating Systems Systems such as Ubuntu and cent-OS
- Professional training and background in soldering and harness production.
- Expertise with Popular micro-controllers such as Arduino, STM32, ESP32/8266.
- Advanced knowledge of technical data sheets and developing for embedded systems.
- Long term experience Git and Github as version control tools.
- Adept in common communication protocols: RS232/485, CAN, SPI, I2C.
- Extensive experience with autonomous development using ROS.
- Competent in the Agile development process that includes Scrums and Sprints.
- Proficient with Team organization programs such as Trello, Slack, Confluence, MS Teams and G-Suite.

Languages:

C • C++ • Rust • Python • ASM

Technologies:

GIT • ROS • RTOS • I2C • SPI •
UART • CAN • IMUs • PID •
JTAG • MATLAB • VHDL •
UML • TCP/IP • DOCKER

EDUCATION

B.S. IN COMPUTER ENGINEERING AND ROBOTICS | UNIVERSITY OF NEBRASKA LINCOLN | 2018 - 2023