

Jackson Dean

SOFTWARE ENGINEER · EMBEDDED SYSTEMS EXPERT

Salt Lake City, UT

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Experience

Cricut

South Jordan, UT

FIRMWARE ENGINEER

January 2024 - Present

- Designed and ran a series of experiments to increase the accuracy of fiducial detection in new machines from ± 0.005 inches to ± 0.001 inches.
- Identified numerous long-standing issues with the fiducial detection system that had been impacting customer experience.
- Spearheaded the department's adoption of AI code generation and testing tools to increase productivity and reduce errors.
- Design and develop embedded firmware for CNC cutting machines, focusing on performance, reliability, and above all user experience.
- Create application specific data processing algorithms to run in resource-constrained systems.
- Collaborate with cross-functional teams including hardware engineers, software developers, and product designers to ensure seamless integration of firmware with hardware components and user software.
- Implement low-level device drivers and communication protocols to interface with sensors, motors, and other peripheral devices. Extensive work with I2C, UART, quadrature encoders, DC motors.
- Develop communication protocols and interfaces between embedded systems and host applications using protobuf.

Kairos Autonomi

Sandy, UT

ENGINEER

May 2020 - May 2023

- Won a US Navy SBIR R&D contract to continue development of a robot capable of autonomously piloting small boats. The project extended from initial client meetings to the delivery of several hundred systems.
- Rapidly iterated software, hardware, and procedures for dozens of prototype robotic systems, often going from idea to small-batch production within days.
- Completed a wide variety of projects including robot network communication protocols; PCB design; GitHub administration; field product support and service; design and manufacture of injection molded, 3D printed, sheet metal, and CNC-milled parts; supply chain analysis; assembly line optimization.
- Authored a variety of documentation and reports including API specifications, patent applications, user manuals, assembly instructions, client progress reports, project proposals, and BOMs.
- Experienced working with autonomous ground and air vehicles, especially using Ardupilot control firmware and MAVLink communication protocol.

Lassonde Make Space

Salt Lake City, UT

VICE CHAIR

August 2019 - May 2020

- Hired and managed a team of 15 people who maintain the space and interact with customers.
- Designed and coordinated workshop events to teach new engineering skills to students.

Education

University of Utah

Salt Lake City, UT

B.S. COMPUTER SCIENCE

December 2022

B.S. MECHANICAL ENGINEERING

- Cumulative GPA 3.96
- **Relevant Coursework:** Natural Language Processing, Data Structures & Algorithms, Mechatronics, Systems Engineering

Blue Dot Impact

AI SAFETY FUNDAMENTALS

October 2024 - February 2025

- Completed a 12-week course focused on AI safety fundamentals, including ethical considerations, regulatory frameworks, and practical applications.
- Learned about the latest advancements in AI safety research and best practices for responsible AI development.

Skills

Programming Languages C/C++, Python, C#, JavaScript

Technologies Protocol Buffers, MAVLink, ArduPilot