

Jacob Bell

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Education

University of Michigan

Bachelor of Science in Engineering in Computer Engineering; Minor in Mathematics

Ann Arbor, MI

August 2021-May 2025

GPA: 3.963/4.000

Coursework: Intro to Creative Process, Electrical Engineering Systems Design I, Discrete Math, Computer Architecture, Programming and Introductory Data Structures, Data Structures and Algorithms, Intro to Computer Organization, Intro to Embedded System Design

Work Experience

Allegro Microsystems

Manchester, NH

Test Engineering Intern

May 2023-August 2023

- Designed test software library for in-line test board diagnostics, which standardized and optimized the process of writing a diagnostics test program. This would ultimately be used in the production environment to maintain high throughput rates.
- Attained technical competence with Teradyne ETS-364 test system
- Presented software library and inline diagnostics process to company directors and management
- Developed strong professional relationships with engineering team members and interns to jointly solve problems

Student Organization Resource Center

Ann Arbor, MI

Student Fieldwork Coordinator

August 2022-October 2022

- Managed team of 5 students to complete weekly contract work
- Initiated overhaul of scheduling system to decrease time required

Clerk C/Motor Vehicle Operator

August 2021-October 2022

- Advocated for and implemented new visual indicators to improve contract tracking software, mitigating a major limitation of the software and eliminating the possibility for one contracted space to be claimed by three or more contracts
- Designed and implemented a new process for destapling, rolling, and sorting physical advertising resources, decreasing time required by 20%

Project Experience

MRover Project Team: Embedded Software Subteam

January 2023-Present

- Architected the communication standards for motor calibration by facilitating discussion between teleoperations and embedded software subteams
- Designed I2C interface between Jetson Nano and brushed motors to control a robotic arm. Debugged interface using Saleae logic analyzer, oscilloscopes, and a multimeter
- Implemented automatic motor calibration sequence using a H-bridge, limit switches, quad encoders, and Jetson Nano.

Electrical Engineering System Design: Search and Rescue Robot

January 2022-April 2022

- Designed, constructed, and tested a wall-following robot that could avoid obstacles and identify a warm object, simulating an encounter with an injured person
- Utilized Linux, C, and Arduino Programming Language to create an effective interface between the BeagleBone Blue computer, an Arduino, a thermopile, and 2 sonar sensors
- Designed the logic to convert sensor readings into motor output and implemented the required wiring utilizing a breadboard

Intro to Creative Process: Interactive Visual Novel

August 2021-December 2021

- Acted as lead programmer, utilizing the Twine platform, JavaScript, and CSS to design the visual experience and core game/Visual Novel logic
- Coordinated development with a team of 3 by setting deadlines for asset creation and organizing meetings to discuss the scope of the project and progress towards goals

Skills

Languages: (*proficient*): C, C++, MATLAB, Git, Unix (*familiar*): C#, Rust, HTML/CSS, Markdown

Software: Vim, Unix/Linux, Unity, Inventor, AutoCAD, Blender, Arduino, Excel

Activities

Boy Scouts of America, *Eagle Scout*

May 2015-July 2021

IEEE-HKN

January 2023-Present