

Allen Mons

amons@umich.edu | 224-358-7978

1300 S University Ave, Apt 1303, Ann Arbor, MI 48104

Education

University of Michigan - Ann Arbor

April 2024 (Expected)

Bachelor of Science in Engineering in Computer Science, Minor in Electrical Engineering

Cumulative GPA: 3.872

Relevant Courses: Data Structures and Algorithms, Operating Systems, Computer Architecture, Mobile Robotics: Methods and Principles, Compiler Construction, Embedded System Design, Machine Learning, Foundations of Computer Science

Work Experience

H3D, Inc.

Ann Arbor, MI

Software Engineering Intern

May 2023 - August 2023

- Developed radiation imaging software in C++ for locating and analyzing sources of radiation.
- Worked with wxWidgets, build configuration files, OpenGL shaders, network devices, embedded linux, and threaded code to add features and fix bugs for clients. Collaborated with team members through Git and Bitbucket.

AdvantageCS

Ann Arbor, MI

Software Engineering Intern

May 2022 - August 2022

- Developed e-commerce software on a team of five using scrum with Azure DevOps in C# with ASP.NET Core.
- Rewrote the logging system to send logs to Microsoft Azure's Application Insights and to follow semantic logging practices for improved ease of access, analytics, and clarity.
- Programmed a customizable "My Account" page for use with various client e-commerce websites.
- Improved the speed of automated nightly UI tests through parallelization and shortcuts.

Digital Design Corporation

Arlington Heights, IL

Engineering Intern

May 2021 - July 2021

- Pitched, designed, and implemented an improved control panel program for LCD school clocks using ReactJS and Electron, with event scheduling and user-created HTML/CSS/JS module support.
- Developed an efficient fuzzy database matching algorithm in C# using dynamic programming for a new product.
- Created product demo applications using Node.js and Python servers to send commands using a REST API.

Engineering Intern

May 2020 - July 2020

- Translated semi-global matching stereo vision code to a hardware language to evaluate its viability on FPGAs.
- Designed a prototype LCD school clock control panel user interface in Python.

Engineering Intern

May 2019 - July 2019

- Implemented the semi-global matching computer stereo vision algorithm in Python using census transform, sum of absolute differences, and semi-global cost aggregation for accurate disparity maps.

Project Experience

Glove Controlled Electric Longboard

2023

- Worked on a team of 4 engineers to design, build, and program an electric skateboard from scratch, using two STM32 ARM microcontrollers in C. Used I2C and PWM to interface XBees, motor drivers, and an OLED screen.

Competitive Programming

2019 - Present

- Competed in the Google Hash Code, Google Code Jam, and C1 Terminal coding competitions.
- Placed in the top 3% of over 9000 scoring teams in Google Hash Code on a team of two using C++.

Awards

Dean's Honor List and University Honors

2020, 2021, 2022

FIRST Robotics World Championship Winning Alliance

2019

- Won the FIRST Tech Challenge robotics World Championship on a 3-team alliance out of 6818 teams competing that season. Served as a team leader to make design and strategy decisions, and also as head programmer.

FIRST Robotics World Championship Control Award

2018

- Won the FIRST Tech Challenge robotics Control Award for best software and control systems at the World Championship out of 6021 teams competing that season. Served as the team's only programmer for the season.