

Gannon Smith

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EDUCATION

University of Michigan College of Engineering

Bachelor of Science, Engineering in Computer Science Engineering | GPA: 3.75

Minor in Electrical Engineering

Ann Arbor, MI

Aug. 2021 – May. 2025

Honors:

Dean's List; Fall 2021- Present

Relevant Coursework:

Machine Learning, Foundations of Computer Science, Web Systems, Computer Organization, Logic Design, Data Structures and Algorithms, Electronic Circuits, Programming and Data Structures, Discrete Mathematics, Intro to Autonomous Electronic Systems

EXPERIENCE

Ford Motor Company

Connected Vehicle Software Intern - Model E Product Development

Dearborn, MI

May. 2023 - July. 2023

- **Rainflow Algorithm:** Researched and designed a real-time hysteresis loop counting algorithm in C to condense a complicated load history from transmission torque into meaningful histograms for validation of consumer vehicle use. Resulted in an efficient program on-board the Powertrain Control Module that runs on various vehicle signals and reduces memory used to 1.7% of former size over one hour drive.
- **Algorithm Validation:** Developed proof of concept for real-time adaptation of post-processing rainflow algorithm in Python and compared various inputs and outputs, adding custom implementation of peak-valley filtering. Resulted in a new modified algorithm that correctly identifies cycles.
- **Testing:** Designed model using MATLAB, Simulink, and Ford testing framework SWIFT to test algorithm in a realistic vehicle environment in parallel with other PCM components. Resulted in verification of functioning components and functioning system as a whole when simulated with real vehicle data.

Michigan Medicine

Software Engineering Technician - 3D & Innovations Lab

Ann Arbor, MI

June. 2022 - April. 2023

- **Automated Faculty Evaluation:** Designed and developed Python application to automatically generate general and annual reports for instructor evaluation based on data from thousands of forms in various databases. Resulted in a streamlined process for generating and circulating reports based on department, name, or event.
- **Mi-TRAC:** Collaborated with doctors and other professionals to discuss design and functional requirements for Michigan Tool for Resident Assessment of Competencies (Mi-TRAC). Resulted in initial project grant and extension of funding pending proof-of-concept.

Tamarack Tower

Web Developer and Server Administrator

Remote

Sept. 2022 - Current

- Maintained web pages for nonprofit organization that promotes education by awarding scholarships to students
- Developed an automated email system using cron and JavaScript to notify administrators of donations and provide weekly summaries

PROJECTS AND ORGANIZATIONS

Bubble: Developer for open source, end-to-end encrypted app using Rust, React Native, and PostgreSQL allowing users to form groups, send chat messages, and track locations. Worked on the backend and frontend of the app, developing routes and models from scratch using MLS protocol. Collaborated in designing project architecture and developed the user authentication process.

UMARV Navigation Team: Software Developer for the navigation subteam in the University of Michigan's Autonomous Robotic Vehicle project team. Researched and implemented various autonomous pathing algorithms, including A* and D* Lite to be used by the robot during the Intelligent Ground Vehicle Competition. Collaborated in the development of the GPS conversion module.

VictorCrypto VP & Founder: Envisioned mission and structure to facilitate growth of the cryptography club at the University of Michigan and recruited 60+ members in the first two semesters. Led discussions about the world of cryptography and its applications in modern society. Organized simulations and demonstrated the applications of cryptography.

PROGRAMMING SKILLS

Languages: C++, C, Rust, Python, JavaScript, SQL, HTML, CSS, Verilog, MATLAB

Technologies: React, Ubuntu Linux, Git, Postgres, CAD

Libraries and Tools: Pandas, numpy, JSON