# Sydney Shanahan

(248)-508-8835 | shanahsy@umich.edu | linkedin.com/in/sydney-shanahan

## Education

**University of Michigan** Aug 2021 – May 2025
*Computer Science Engineering, GPA: 3.82* *Ann Arbor, MI*

**Relevant Coursework**: Data Structures and Algorithms, Discrete Math, Linear Algebra

**Awards/Honors**: Dean's List, University Honors, Leinweber Software Scholar

## Skills

**Languages**: C/C++, Python, MATLAB, R, Julia

**Applications**: VS Code, GitHub, Valgrind, Siemens NX, Team Center, Onshape

## Projects

**Computer Vision project** in C++ to implement a seam-carving algorithm to resize images without distorting using pointers, arrays, structs, strings, and I/O operations

**Euchre Simulator** in C++ supporting AI and Human Players using Abstract Data Types, Derived Classes, Inheritance, and Polymorphism

## Experience

**Northrop Grumman** Aug 2023 – Dec 2023
*Incoming Software Engineer Intern* *Colorado Springs, CO*

**Ford Motor Co** May 2023 – Aug 2023
*Software Engineer Intern* *Dearborn, MI*

**University of Michigan, EECS 203 (Discrete Mathematics)** Jan 2023 – Present
*Instructional Aide* *Ann Arbor, MI*

- Led weekly discussion and created challenging homework assignments and exams in discrete mathematics topics such as combinatorics, graph theory, asymptotic complexity, and proof methods
- Hosted office hours every week, assisting 600+ students with course concepts

**Engineering Society of Detroit** Sep 2021 – Present
*Math Instructor* *Ypsilanti, MI*

- Developed Precalculus and Algebra curriculums and taught eighth and ninth grade students from Detroit schools as part of the ESD Girls Engineering Academy
- Achieved an 80% increase in median class scores from pretest to post test at Oakland University program for Academic year 2021-2022; invited to teach additional classes at Eastern Michigan University

## Student Organizations & Leadership

**Michigan Mars Rover (MROVER)** Mar 2022 – Present
*External Relations Officer, Business Lead*

- Cultivated a corporate sponsor network and drafted grant proposals to fund a $70,000 budget
- Developed and maintained MROVER website using HTML; streamlined website development to add simultaneous preview capability eliminating the need for running jekyll on a local host
- Created MROVER and affiliated sponsorship graphics for the team apparel, social media, and website

**Society of Women Engineers** Aug 2021 – Present

- Planned and volunteered at events as part of the Elementary Engineering Exploration Day committee
- Attended SWE conferences at local and national level to gain professional development skills