

Frank Sun

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Computer science and mathematics college student looking for rewarding internship experience.

EDUCATION

UNIVERSITY OF MICHIGAN, ANN ARBOR (Current cumulative GPA: 3.98)

College of Engineering, B.S.E Computer Science, B.S. Mathematics (Expected graduation May 2025)

- **Sample Coursework:**
Data Structures & Algorithms, Linear Algebra, Foundations of Computer Science, Probability & Statistics, Discrete Math, Honors Multivariable & Vector Calculus
- **Awards & Honors:**
Rogel Award of Excellence (2021-2025); Abbott E.M. & F.L. Scholars (2021); Sessner Scholarship (2022)
- **Extracurricular Activities:**
Michigan Community Scholars Program, SPARK Electric Racing, Michigan Basketball Analytics Association

WORK/PROJECTS

- **Research Assistant: Dr. Nathan Dawson, Hawaii Pacific University** *Jun-Aug 2022*
 - Prepared polydimethylsiloxane (PDMS) sample cured on surface relief grating for diffraction measurements, created Arduino system of relays to facilitate consistent experiment, coded data visualization in Python
 - Studied diffraction as a method of determining laser power
- **UM Autonomy (Student Project Team):** *Aug 2022-Present*
 - Train an autonomous boat to recognize buoys and optimally navigate a path and complete other specialized tasks
 - Wrote code in MATLAB and C++ to visualize and simulate path planning algorithms, including RRT* and Hybrid A*
- **UM Math Tutor** *Jan 2022-Present*
 - Work with students on Calculus I-III and Linear Algebra
- **Clerk-Conference and Event Services (UM)** *Sept 2021-Present*
- **C++ Projects**
 - Graph searching and route backtracking using BFS & DFS algorithms
 - Tower defence game simulator using priority queues and implementing templated containers, inheritance and interface programming
 - Researching and implementing approximation algorithms for traveling salesman problem

PROGRAMS/LANGUAGES

- **C/C++, Python, MATLAB, R, Microsoft Office suite**

PUBLICATIONS

- **Sun, F., Shasho, R.T., Crescimanno, M., Dawson, N. J.** (2022), All-Optical Method of Determining Laser Power from the Photomechanical Effect. *Appl. Sci.* 12(21), 10708; <https://doi.org/10.3390/app122110708>

OTHER HONORS/EXTRACURRICULAR ACTIVITIES

- National Merit Scholarship (2020)
- Hawaii Youth Symphony (YSII, 2015, YSI 2016-2020)