

# Melina O'Dell

[melodell@umich.edu](mailto:melodell@umich.edu) | (989) 860-2581 | [LinkedIn](#) | [GitHub](#) | [Website](#)

## Education

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### University of Michigan – Ann Arbor, MI

Master of Science in Engineering in Computer Science (GPA: 4.00 / 4.00)

Aug 2023 – Dec 2024

Bachelor of Science in Engineering in Computer Science (GPA: 3.85 / 4.00)

Sep 2019 – Apr 2023

- **Relevant Coursework:** Web Systems, Software Engineering, Human-Computer Interaction, Database Management Systems, Information Retrieval and Web Search, Foundations of Artificial Intelligence

## Experience

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### Verkada – San Mateo, CA

Frontend Software Engineering Intern, Core Command & Web Platform

May 2024 – Aug 2024

- Refactored Verkada's web application, resulting in a **90% faster page load time for their largest enterprise customers**
- **Directed the design and documentation of generalized and scalable endpoint migration patterns** for all 6 product teams company-wide to follow, ensuring alignment with engineering best practices
- **Upgraded performance observability via Datadog analytics and dashboards** to track improvements in page speed metrics post-refactor
- Increased reliability of under-tested, client-facing features and confidence in deployments by writing new **end-to-end and unit test suites** with Playwright and Jest

Frontend Software Engineering Intern, Access Control

May 2023 – Aug 2023

- **Created new interactive and transformable door device representation** for Verkada's Floorplans UI, a highly requested feature by the largest access control customers
- Improved existing Floorplans code architecture to support future product expansion by designing **generalized and reusable React components** using TypeScript and Redux
- **Documented implementation plans and engineering tradeoff discussions** in a comprehensive technical project specification, enhancing project clarity and boosting cross-team awareness

### University of Michigan College of Engineering – Ann Arbor, MI

Web Systems Teaching Assistant

Aug 2022 – Present

- Assisted teaching an upper-level CS course of **700+ students**, covering **full-stack development** using Flask, SQL, and React, AWS deployment, REST APIs, MapReduce, Hadoop, and search engines
- **Led weekly lab sections for 30+ students to promote independent learning** and provide hands-on practice with fundamental web development concepts and debugging techniques
- Maintained course autograder by **writing new unit tests** and **updating and deploying Docker images**
- Implemented enhancements for instructor solutions to support **continuous refinement of course projects**

Research Assistant

Sep 2023 – Jun 2024

- **Developed and deployed a custom generative AI chatbot** trained on course materials to a course of 700+ students as a supplemental course resource
- **Interpreted and analyzed quantitative and qualitative survey results** about student experiences and custom chatbot usefulness
- Press: [GenAI in computer science education: Friend or foe?](#)

### Learning A-Z – Ann Arbor, MI

Software Engineering Intern

May 2022 – Aug 2022

- Built and documented a **full-stack dashboard** feature to display four types of classroom performance statistics to teachers using Angular, Laravel, and MySQL
- Presented research project on **cloud deployment** and demoed hosting a Flask app using Google Cloud App Engine and Datastore
- Designed **high-coverage unit tests** and participated in code reviews to improve code quality and maintainability

## Publications

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Yutong Ai, Maya Baveja, Akanksha Girdhar, **Melina O'Dell**, Andrew DeOrio, "[A Custom Generative AI Chatbot as a Course Resource](#)," American Society of Engineering Education (ASEE), June 2024.

## Technical Skills

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**Languages:** JavaScript, TypeScript, Python, HTML/CSS/SCSS, SQL, PHP, C/C++

**Technologies:** React, Redux, Angular, Flask, PostgreSQL, MySQL, SQLite, Cypress, Playwright, Jest, AWS EC2, Heroku, Docker, Datadog

**Software/Tools:** VSCode, Git, GitHub, Emacs, Xcode, IntelliJ platform, Datadog, phpMyAdmin