Margaret Holman

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Education

UNIVERSITY OF MICHIGAN **Ann Arbor, MI**
College of Engineering **May 2026**
B. S. E. in Computer Science
Minor in UX/UI Design

- Relevant Course Work: Data Structures & Algorithms, Computer Organization, Cyber Security, Foundations of Computer Science, Discrete Mathematics, Linear Algebra, Web Development & Accessibility, Calculus II
- Awards: Dean's List, University Honors

Experience

MATIV **Atlanta, GA**
Web Development Intern – Information Technology Team **Summer 2024**

- Collaborated with a team of developers to migrate the Risk Management System from an Access database to a SQL database, enhancing data accessibility and storage capacity, and enabling simultaneous access for multiple senior stakeholders
- Independently designed a new company website scheduled for a 2025 launch. Utilized Figma for creating responsive designs across mobile, tablet, and desktop views, and crafted custom logos and images with Adobe Illustrator
- Conducted comprehensive ADA compliance audits using Access Scan and Lighthouse on 100+ company webpages. Identified and rectified accessibility issues, significantly improving adherence to accessibility standards and enhancing user experience for all users.
- Contributed to the redesign of the internal Compass website to foster better employee connectivity and engagement. Focused on modernizing the internal portal's user interface and improving overall UX/UI

Projects

ADVANCED BANKING SYSTEM SIMULATOR – C++ **Solo - February 2024**

- Developed a custom relational database emulation in C++ using hash maps and priority queues, simulating a banking system with efficient data storage, retrieval, and algorithmic optimization
- Created an interactive shell interface for user interaction, enabling execution of complex queries, table joins, and indexing functionalities. Utilized priority queues to manage and track transaction histories between users
- Implemented various classes to encapsulate user data, including usernames, PIN numbers, and financial records. Enabled transactional operations such as transfers and deposits, with query capabilities for transaction histories based on timestamp ranges

OFFICE HOURS WEB SERVER – C++ **Team - October 2023**

- Engineered a functional web server for managing an office hours queue in C++, handling HTTP requests and responses with a REST API, utilizing dynamic memory management and a doubly linked list data structure
- Demonstrated proficiency in container abstract data types, dynamic memory allocation, and data serialization/deserialization using JSON. Implemented comprehensive handling of HTTP methods and error cases for a robust and reliable web application
- Enabled queue operations such as adding, removing, and retrieving members through HTTP requests, accurately simulating the functionality of an office hours queue

CONSTRAINED MST OPTIMIZATION & TRAVERSAL – C++ **Solo - May 2023**

- Utilized graphs and adjacency matrices to model complex data point connectivity, enabling advanced data structure manipulation and analysis.
- Implemented heuristic algorithms to calculate Minimum Spanning Trees (MST) under specific constraints, such as crossing quadrants with "doors" and "walls," using a greedy algorithm approach for optimization.

FORUM POST CLASSIFIER -- C++ **Solo - March 2023**

- Leveraged machine learning techniques of conditional probability optimization to develop a text classification system, utilizing prior Piazza posts for training to determine subject of new Piazza posts
- Implemented data structures, including binary search trees and maps, optimizing for efficient storage and element retrieval

Leadership & Professional Development

TAU EPSILON KAPPA – Professional Technology Fraternity
Vice President **March 2024 – Present**
VP of Marketing **March 2023 – March 2024**

- Oversee the executive board of 8 members, supporting their committees to ensure smooth operations for the 120+ member fraternity. Facilitate bi-weekly meetings and maintain the shared drive for organizational efficiency .
- Directed the fraternity's social media presence, crafting professional and informative content. Utilized Canva and Adobe Illustrator to design original logos, banners, merchandise, and infographics, elevating the organization's relevance on campus

Technical Skills

- Languages: C++/C, HTML, CSS, JavaScript, SQL, Python, Latex
- Frameworks/Tools: VS Code, Microsoft Visual Studio, Adobe, Figma, Microsoft Office