Ashton E. Thomas

+1(231)492-8156 | aethom@umich.edu | Ann Arbor, MI | https://aethom00.github.io

Education

University of Michigan - Rackham Graduate School Ann Arbor, MI
Major - MSE Computer Science *01/2025 - 05/2026*

University of Michigan College of Engineering Ann Arbor, MI
Major - BSE Computer Science, GPA - 3.8 / 4.0 *08/2022 - 05/2025*
Relevant coursework: Data Structures & Algorithms, Web Development, Computer Vision, Object-Oriented Programming, Cryptography, Web Systems, Data Analytics, Quantum Computing, Computer Organization

Experience

Amazon, Boston, MA 09/2024 - Present
Software Development Engineer Intern

- Collaborated with 20 engineers to develop, test, and enhance Alexas, improving functionality and user experience.
- Independently designed and implemented new Alexa device features, enhancing performance and user experience.

Ground Vehicle Systems Center (SEC), Warren, MI 05/2024 - 08/2024
Software Engineer Intern

- Leveraged MagicDraw & Excel to design databases for Jira tickets and hardware, leading to improved efficiency.
- Created Python scripts to parse large csvs with 1000s of datapoints to update integrated networks in Jira.

Madi Taylor Photo, Traverse City, MI 06/2021 - 07/2024
Full Stack Developer Intern

- Developed and maintained the corporate website, crafting a cohesive user interface with HTML, CSS, and JS.
- Implemented robust back-end payment solutions and form validation to streamline user transactions.

Projects

Geoguessr AI, Computer Vision, Ann Arbor, MI 02/2024 - 05/2024

- Crafted a modified ResNet-50 architecture that accurately identifies U.S. geographic locations from images, overcoming lighting and seasonal variations. Through fine-tuning with a dataset of 61,000 images and innovative custom layers and a unique Haversine distance-based loss function, we achieved accuracy of roughly 90%.

Google Search Engine, Web Systems, Ann Arbor, MI 03/2024 - 04/2024

- Engineered a scalable search engine similar to Google. Our approach utilized a segmented inverted index implemented through MapReduce programs, a REST API for search results, tf-idf for text analysis, PageRank for link analysis, and a user interface to interact with the engine.

Instagram Clone, Web Systems, Ann Arbor, MI 01/2024 - 03/2024

- Constructed an Instagram Clone in three stages: a static site using HTML, Python, and CSS; a server-side dynamic site embedded with SQL relational databases, Flask, enabling features like user logins, content management, and interactions; and a client-side dynamic version with JavaScript, REST APIs, and React for seamless content updates without reloads, introducing infinite scroll and double-tap to like functionality.

Study Group Coordinator, Quantum Computing, Ann Arbor, MI 02/2024 - 03/2024

- Developed a Study Group Scheduler using Grover's algorithm and quantum counting to efficiently form study groups under specific CNF constraints. I created a Bitflip Oracle and a Phase Oracle to transform CNF constraints into quantum operations, implemented Grover's algorithm for solution optimization, and engineered a quantum counting circuit to estimate feasible solutions.

Clubs

Michigan Data Science Team, Ann Arbor, MI 01/2024 - Present

- Utilized Python for an augmented LLM application generating personalized recipes based on available ingredients.

MHackers, Ann Arbor, MI 08/2022 - Present

- Collaborated with a 4-person team leveraging Keras and TensorFlow to predict locations from panoramas with a 90% accuracy rate, utilizing grayscale image processing on data sourced from the Mapillary API.

Technical Skills

Tools: AJAX, ARM, C/C++, CSS, Excel, Flask, Git, HTML, Javascript, Jinja, Jira, Keras, Latex, Matlab, Python, PyTorch, Qiskit, React, SQL, VBA, VMWare, VSCode, Windows