Dorothy Hong

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EDUCATION

University of Michigan — Ann Arbor, MI
Bachelor of Science in Computer Science — *May 2025*

- Minor in User Experience Design, School of Information
- GPA: 3.36 / 4.00
- Relevant Coursework: Data Structures and Algorithms, Database Systems, Web Systems, Introduction to Artificial Intelligence, Accessibility & Web Development

WORK EXPERIENCE

University of Michigan – Center for Sustainable Systems (CSS) — Ann Arbor, MI
Data Visualization Intern — *May 2024 – Oct 2024*

- Developed 100+ interactive displays using D3.js, JavaScript, HTML, and CSS, contributing to 70% increase in factsheet site engagement.
- Transformed complex sustainability data into structured CSVs, reducing future graphic update time by 40%.
- Integrated graphics into Drupal-based site featuring sustainability factsheets, collectively viewed over 500,000 times annually.

DOGU — Seoul, Korea
Software Engineer Intern — *June 2022 – August 2022*

- Created vector-based maps for autonomous patrol robots using Autoware and SLAM, enabling accurate indoor localization and reducing path planning errors by 35% in test environments.
- Designed and ran over 50+ simulated edge cases, such as blocked paths and misplaced objects, to test system response logic and ensure reliable behavior in unpredictable indoor settings.
- Calibrated LIDAR and camera sensors to reduce false negatives and improve object detection across complex layouts.
- Conducted research at 5+ potential deployment sites including factories, hospitals, and schools to identify real-world use cases and inform deployment strategy.

PROJECT EXPERIENCE

Client & Server Side Dynamic Instagram Clone

- Developed Instagram-style app with Flask, ReactJS, and custom REST APIs for client-side and server-side rendering.
- Implemented features including account creation, likes, comments, and infinite scroll for dynamic user experience.

Search Engine

- Built search engine that indexed Wikipedia documents using TF-IDF and ranked results based on query relevance.
- Processed large-scale document data with Hadoop MapReduce and deployed system to AWS for scalability testing.

Custom MapReduce Framework

- Constructed multi-threaded, multi-process MapReduce system in Python using Master–Worker architecture.
- Implemented TCP-based communication and integrated fault tolerance to ensure recovery from worker node failures.

LEADERSHIP EXPERIENCE

Wolverine Support Network — Ann Arbor, MI
Wolverine Support Network Leader — *August 2022 – May 2025*

- Facilitated 80+ peer-led support sessions for 8–12 students to address academic and personal challenges.

SKILLS

Programming: Python, JavaScript, C++, Java, SQL, HTML, CSS
Frameworks/Libraries: Flask, React, D3.js
Tools: Git, Oracle SQL*Plus, Drupal, Autoware Map Tools
Languages: Fluent in English and Korean