ROBIN HWANG

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EDUCATION

University of Michigan — Aug. 2022 – May 2026
B.S. in Computer Science — *Ann Arbor, MI*
Notable Coursework: Data Structures and Algorithms, Elementary Programming Concepts,
Programming and Data Structures, Discrete Mathematics, Introduction to Computer Organization

RELEVANT EXPERIENCE

Machine Learning Intern — Jun. 2023 – Aug. 2023
Stanford Linear Accelerator Center (SLAC National Accelerator Laboratory) — *Menlo Park, CA*
- Optimized water-cooling systems using Python, PyTorch, numPy, and data from FAST particle accelerator injector at Fermilab by implementing a long short-term memory (LSTM) neural network
- Improved speed of normalization of temperature by up to five times using model predictive control rather than traditional proportional-integral-derivative (PID) controller or other feed-forward neural network solutions
- Prepared findings and gave a lecture at the laboratory on the benefits of utilizing machine learning in optimizing particle accelerators (DOI: 10.13140/RG.2.2.15339.52008)

PROJECTS

The Walking Deadline – Zombie Tower Defense Game — Sep. 2023 – Oct. 2023
- Developed a Zombie Tower Defense Game that reads input from game files using C++ and its STL including deques, vectors, priority queues, and Mersenne Twister algorithm
- Implemented sorted, binary heap, and pairing heap priority queues using vectors from the C++ standard library

Piazza Post Organizer — Mar. 2023 – Apr. 2023
- Created a machine learning algorithm using C++ and the STL to categorize posts on the web application Piazza depending on certain patterns in their content
- Implemented a binary search tree (BST) to recursively (for the sake of efficiency) analyze Piazza posts

Room Reservation System — Jun. 2021 – Jan. 2022
- Developed a room reservation system with a GUI in Java and Swing for faculty to reserve computer labs and multipurpose classrooms
- Implemented sorting and search algorithms (binary search) to allow admins to search for registered faculty members
- Installed application on the district's LAN (local area network) to prevent access to users outside of the district

LEADERSHIP EXPERIENCE

Marketing Chair — Sept. 2023 – Present
Society of Asian Scientists and Engineers (SASE) — *Ann Arbor, MI*
- Sent out biweekly updates to keep members up to date and maintain member retention
- Managed social media account with approximately 400 members/alumni in order to promote events

President — Sep. 2021 – May. 2022
Computer Science Club — *Long Island, NY*
- As president, led club by running meetings, introducing concepts in Computer Science, and preparing code stubs for club activities
- Taught binary, cryptography (Hill Cipher, Atbash Cipher, Vigenère Cipher, etc.), HTML, CSS, JavaScript, discrete mathematics, bot programming in Python, etc.

SKILLS

Programming Languages	Python, C++, Java, HTML, CSS, JavaScript, R
Software Tools	PyTorch, matplotlib, numPy, Git, pandas, Flask, Figma, Netlify, Firebase, AGILE methodology, APIs, React
Office Tools	Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Publisher, Google Suite, Dropbox
Spoken Languages	English, Korean