ROBIN HWANG

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Skills

Programming Languages: Python, C++, Java, HTML, CSS, JavaScript, R
Frameworks and Software Tools: PyTorch, matplotlib, numPy, Git, pandas, Flask, Figma, Netlify, Firebase, AGILE methodology, APIs
Office Tools: Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Publisher, Google Suite
Languages Spoken: English and Korean (native), Spanish (proficient)

Projects and Relevant Experience

Machine Learning Researcher Jun. 2023 – Aug. 2023
Stanford Linear Accelerator Center (SLAC National Accelerator Laboratory) *Menlo Park, CA*

- Optimized water-cooling systems using 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

President of Computer Science Club Sep. 2021 – May 2022

- 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.
- Ran "unplugged" meetings which introduced Computer Science concepts without the use of computers

Room Reservation System Jun. 2021 – Jan. 2022

- Developed a room reservation system in Java 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
- Designed a GUI for easy use by school faculty using Swing and AWT
- Installed application on the district's LAN (local area network) to prevent access to users outside of the district

COVInsight (Research Project) Sep. 2020

- Using phylogenetic data from Nextstrain, created database of every SARS-COV-2 variant (over 5000) using Python
- Designed front end in Swing and AWT in Java
- Utilized pandas library in Python to perform analyses/read TSV files of variant data

Discord Bot Mar. 2020 – Jun. 2020

- Used Python to develop a bot for the messaging application Discord that automatically replies to certain trigger words sent in the chat using discord.py API
- Hosted bot to keep running even when IDE is closed using the Flask web framework
- Created tutorials on how to make Discord bots through a series of videos on YouTube channel

Education

University of Michigan Aug. 2022 – May 2025
B.S. in Computer Science *Ann Arbor, MI*
Notable Coursework/Awards: Data Structures and Algorithms, Elementary Programming Concepts, Programming and Data Structures, Discrete Mathematics, University Honors, Branstrom Freshman Prize GPA: 3.8/4.0

Commack High School Sep. 2018 – Jun. 2022
International Baccalaureate Diploma *Commack, NY*
Awards: Best Student in Computer Science, Congressional App Challenge Runner-Up GPA: 4.1/4.0