

Serena Huang

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<https://github.com/SerenaJewels>

EDUCATION

Bachelor of Science, Computer Science and Mathematics

08/2022-05/2026

Minor in Classical Mythology

University of Maryland, College Park

PROFESSIONAL EXPERIENCE

Technica

Tech Director

11/2023-current

- Lead a team of 9 to create scripts and websites for **Technica**, the world's largest **hackathon** for underrepresented genders
- Delegate tech related requests to team members via **GitHub** issues and manage pull requests and merge conflicts
- Deploy the websites and scripts using **AWS Amplify**, **Route 53**, and **IAM**
- Store vital hacker data to **DynamoDB tables** and **S3 buckets**
- Send out automated emails using **AWS Simple Email Service**
- Debug website backend using **AWS Cloud Watch** and through various types of user tests

Tech Organizer

04/2023 - 11/2023

- Worked on a team with 11 other organizers to create three different websites for Technica, the world's largest hackathon for underrepresented genders in tech
- Developed web-based registration using **VUE3**, **HTML**, **CSS**, and **Java Script** with links to an **AWS** database
- Updated the day-of website using **VUE2** to better fit this year's theme
- Eliminated 70% of the issues with resizing through implementing **Bootstrap 5**, making the website accessible to devices and monitors of all sizes.
- Worked closely with the design team to translate mockups into visually appealing interfaces

University of Tennessee

05/2024-08/2024

Undergraduate Researcher, Department of Industrial and Systems Engineering

- Worked alongside mentor, graduate students, and a research partner on **analog quantum neutron scattering simulations**
- Implemented **doppler damping** and **laser waist error** using **Qiskit** and **PennyLane** python libraries
- Simulated and corrected for **SPAM error** via **matrix inverse methods**

- Ran neutron scattering simulations with error correction through **Aquila quantum computer** to experimental results with ideal

University of Maryland, College Park

Community Assistant

09/2022-05/2023

- Staffed a 24-hour Service Desk
- Logged and loaned keys with appropriate identification
- Responsible for organizing, logging, and delivering packages
- Maintained understanding of and appropriate execution of emergency procedures and resources

New York University, Tandon

Machine Learning Summer Program

05/2019 - 07/2019

- Learned core ML principles such as model development through **cross-validation, linear regressions, neural networks, and K-clustering**
- Learned importance of analyzing false positives and negatives when analyzing results through working with the **Breast Cancer Wisconsin** dataset and the **scikit-learn** python library
- Trained basic **convolutional neural networks** on famous datasets like the **MNIST dataset and the CIFAR10 dataset**
- Experimented with different python libraries to make creation of NN's easier, including **TensorFlow, Pandas, Numpy, Keras**

PERSONAL PROJECTS

Technica Hackathon 2022

10/2022

- Led a team of 4 people to develop an application that guides college students through creating a balanced work-life routine using **Python3**
- Conducted thorough testing and debugging to identify and resolve 97% of character movement and collision-related bugs, ensuring a smoother user experience
- Outlined group goals and delegated team tasks to ensure a clean and complete final product
- Implemented all of the graphics and created the movement controls for user interaction

International Baccalaureate Computer Science Extended Essay

08/2020 - 05/2022

- Researched past and current types of **neural network** implementations for musical analysis
- Developed an AI to classify classical music into the four basic eras of Western Classical Music using Python's **TensorFlow** and **Pandas** libraries
- Extracted data from raw wav files through **Librosa** and combed through to find the best fit features for musical era classification
- Conducted experiments altering quantity of nodes per layer and the total amount of layers to determine which neural network structure achieved the highest accuracy
- Compiled and analyzed data to ensure proper data training, getting accuracy of the neural network to over 75% on test data