Sophia Huang

Education

2025–2029
Barnard College, Columbia University
2021–2025
Thomas Jefferson High School for Science and Technology
HS GPA: 4.50 (Weighted)

Test Scores

SAT Math (780) Reading (750)
AP Computer Science A (5)
AP Statistics (5)
AP Calculus (5)

Awards & Honors

2025 National Merit Scholar
HackTJ Best Social Impact
AP Scholar with Distinction

Technical Skills

Coding Languages: Python, Java, C++, JavaScript, R
Machine Learning / AI: PyTorch, TensorFlow, Keras, OpenCV, Neural Networks
Data Analysis: Numpy, pandas, matplotlib
Website / Mobile Apps: HTML, CSS, JavaScript, Node.js, Express.js, Django
Other: Computer Skills, Cash Handling, Communication

Languages

Fluent in: English
Proficient in: Mandarin

CONTACT INFORMATION

sophiamhuang25@gmail.com | New York City, New York

RESEARCH & EXPERIENCE

Computer Lab Student System Administrator | TJHSST
Jan. 2022 - PRESENT
- Maintaining student-run school intranet, webmail, Linux workstations, printing, signage systems, and other services.
- Quickly learn tools, fix time-sensitive issues, and respond to inquiries from students and staff.

Student Researcher | TJHSST Computer Systems Research Lab
Aug. 2024 - PRESENT
- Researching *Color Quantization of CIFAR-10 Image Dataset for Image Classification using Convolutional Neural Networks.*
- Applying k-means Vector Quantization & Dithering algorithms to image inputs to reduce computational load of AI object recognition.

Intern | CS Informatics Research Experience @ Stony Brook University
July. 2024 - Aug. 2024
- Researched *Fair Data Distillation for Electronic Health Records Using Neural Networks* with Professor Tengfei Ma.
- Compressed kidney glomerular filtration rate time series data into a compact synthetic dataset using advanced distillation techniques.

Intern | iCompBio Summer Research @ University of Tennessee
Jun 2022 - Dec. 2024
- Developed a data-driven method called Growth Rate to estimate transmission fitness of SARS-CoV-2 variants with Prof. Hong Qin.
- Paper accepted for presentation at ICIBM 2024 in Houston, Texas.
- Preprint published to MedRXiv, and ResearchGate and more.

Web Dev Intern | *Smithsonian Environmental Research Center (SERC)*
Jun. 2023 - Aug. 2023
- Developed an interactive, user-friendly ArcGIS map displaying docks and water sampling stations surrounding Chesapeake Bay.
- Increased volunteer water sample collections by one-third since the map's release on the SERC webpage.

CLUBS AND LEADERSHIP

- Head of Printing and Signage Systems, TJ System Administration
- President, TJ Website Development Club