# SOPHIE SHIH

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Versatile, self-driven student with great communication skills and strong foundations in programming and medical AI / LLMs.

## Education

**Duke University** Expected: May 2030
Computer Science and Neuroscience
- Relevant Coursework: Data Structures & Algorithms
- Involvements: Catalyst Tech Society, Duke Chronicle, StreetMed Dance Team, Club Tennis

**Stuyvesant High School**
*GPA: 4.0/4.0 || 97* Jun. 2026
- Honors Classes: AP Computer Science, AP Physics C Mech, AP Physics C E&M, AP Calculus BC, AP Chemistry, AP Mandarin, AP US Government, AP Macroeconomics, AP European History

## Experience

**Mass General Brigham** Jun. 2025 - Sep. 2025
*Research Intern* *New York, NY*
- Independently developed an interactive, research-based app exploring links between the microbiome and Parkinson's disease, integrating AI agents, the MINERVA knowledge graph, semantic literature search, and personalized health insights.
- Designed the Streamlit interface and dynamic visualizations, conducted biomedical research, and authored a comprehensive thesis examining the use of AI to translate complex scientific findings into accessible educational tools.

**TheCoderSchool** Nov. 2024 - Jun. 2025
*Intern / Code Coach* *New York, NY*
- Developed custom code projects and challenges to reinforce key programming concepts and foster creativity
- Designed and led coding projects that introduced fundamental physics concepts—such as gravity, acceleration, and collisions—through interactive games in Scratch

**Weill Cornell Radiology** Jul. 2024 - Jun. 2025
*Research Intern* *New York, NY*
- Annotated MRIs of ADPKD (Autosomal Dominant Polycystic Kidney Disease) patients and helped to build an AI deep learning model with the ability to segment organs for MR abdomen and pelvis studies
- Project using few-shot LLM prompting to generate patient-friendly explanations for incidental findings on MRI (RSNA abstract)
- Explored mathematical models and spatial algorithms underpinning image segmentation and neural network training for volumetric data

**MD.ai** Jun. 2023 - Jul. 2023
*Intern* *New York, NY*
- Presented weekly regarding LLMs for healthcare use cases, curating high-quality medical information for question / answering
- Shadowed engineers and helped with testing of features in their MD.ai Reporting product including automated radiology report generation, which uses LLMs in a HIPAA-compliant environment
- Worked on a project using LLM Agents to generate patient-friendly letters (https://arxiv.org/pdf/24me08.01112), project winning 2nd place at the SIIM Hackathon (slides / video)

**Believers** Jul. 2024, 2025
*Volunteer* *Tokyo, Japan*
- Believers provides a solution to a growing issue of young students in Japan dropping out due to rigid school environments and lack of social support by creating a third environment/ middle-ground between home and school
- Worked collaboratively with elementary school students in various activities including crafts, geography, cooking, music, etc.

## Awards & Certifications

- SIIM (Society for Imaging Informatics in Medicine) Hackathon — 2nd Place, 2024 (slides / video) and 2025 (slides/video)
- CITI Program Training: Biomedical Research Investigators and Key Personnel, IRB Members, Good Clinical Practice

## Skills & Tools

- **Languages:** Java, Python, HTML/CSS, JavaScript, NetLogo, Racket
- **Tools:** Git/GitHub, Notion, OnShape/CAD, Streamlit, Generative AI & LLMs, Docker
- **Skills:** Biomedical Research, LLM Prompt Engineering, Machine Learning, Scientific Writing