

# PHILENA LIU

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## EDUCATION

### Massachusetts Institute of Technology

Cambridge, MA

**Major:** Mathematics with Computer Science. **GPA: 4.8**

May 2024

**Coursework:** Algorithms (6.006), Design and Analysis of Algorithms (6.046), Distributed Algorithms (6.852), Machine Learning (6.036), Interconnected Embedded Systems (6.08), Software Construction (6.031), Computer System Engineering (6.033), Stochastic Processes (18.615), Statistics (18.650), Abstract Algebra (18.701), Real Analysis (18.100B), Theory of Computation (18.404), Computation Structures (6.004), Fundamentals of Programming (6.009), Web Programming (6.148)

**Extracurricular Activities:** HMMT Tournament Director Emeritus, Web Programming class staff (6.9620), Asian Dance Team

### Adlai E. Stevenson High School

Lincolnshire, IL

SAT Superscore: 1600. ACT: 36. **GPA: 4.0**

May 2020

## EXPERIENCE

### Reddit

May 2023 - Current

*SWE Intern*

New York, NY

- Working in the ads engineering team to reduce ad-selecting bottlenecks by creating a new service utilizing Kafka, Terraform, AWS, and Golang.

### MIT Web Programming Class (6.9620)

January 2023

*Teacher and Treasurer*

Cambridge, MA

- Lectured and helped run the MIT Web Programming class for over 400 students over the winter term. Taught HTML/CSS, JS, and prototyping in Figma in addition to staffing office hours.
- Developed a [collaborative take](#) on a traditional drawing game in 2 weeks using React.js, Google OAuth, Express, MongoDB, Socket.io, Node.js, GitHub, MaterialUI, and CSS after taking the class in 2021.

### HMMT

June 2022 - June 2023

*Tournament Co-Director*

Cambridge, MA

- Organized the first in-person tournament since COVID-19 as one of the most prestigious high school competitions in the world with nearly 1000 competitors, including national/international olympiad medalists, from across the globe.
- Managed over 10 officer committees and over 100 staff/volunteers from Harvard, MIT, and CMU.

### MathWorks

June 2022 - August 2022

*SWE Intern*

Natick, MA

- Implemented a customer-facing note-taking feature to allow for customizable data analysis in Simulink's Schedule Editor using C++ and JavaScript. Prototyped in Figma and outlined model structure using internal modeling frameworks.
- Placed in an internal MathWorks hackathon with a prototype of a lunch-menu app.

### Gem Software

June 2021 - August 2021

*SWE Intern*

Remote

- Developed full-stack event form features (custom banner image uploads, improved form validation, automated form submission confirmation emails) using GraphQL, Python, JavaScript, SQL, React.js, and AWS.
- Streamlined user workflow by redesigning and routing the Support Dashboard page, developing additional team-wide setting configurations, and other UI/UX improvements.

### Program in Mathematics for Young Scientists (PROMYS)

June 2019 - August 2019

*Camp Attendee, Exploration Lab Member*

Boston, MA

- Presented [findings](#) on Fibonacci numbers in modular arithmetic in a research group to professors and other camp members.

## AWARDS

### Math Prize for Girls (MPFG)

2018, 2019

- Placed 9th out of the top 285 girls in math (2018) and tied for 16th out of 268 (2019) from across US and Canada at the largest math competition for girls in the world.
- Qualified twice for the MPfG Olympiad, a 4 hour proof-based exam.

### [MathWorks Math Modeling Challenge](#)

2020

- Placed 3rd out of the 760 teams participating nationwide.
- Used Excel and MATLAB to model the transition from diesel to electric trucking with the Lotka-Volterra approach.

## SKILLS

**Technical:** Python, ReactJS/NextJS, JavaScript/TypeScript, GraphQL, MongoDB, Java, C++, LaTeX, HTML/CSS, AWS, SQL, Golang, Blender