Hanna **Chen**

Computer Science and Applied Math student

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Education

Masters of Engineering in Computer Science

Cambridge, MA

Massachusetts Institute of Technology — *September 2026 - ?*

- Note: already accepted into and plan to attend this program

Bachelor of Science, Computer Science and Applied Math

Cambridge, MA

Massachusetts Institute of Technology, GPA 4.9 out of 5.0 — *September 2022 - May 2026*

- Relevant coursework:
  - Linear Algebra
  - Differential Equations
  - Complex Variables
  - Probability and Random Variables
  - Fundamentals of Statistics
  - Seminar in Physical Mathematics
  - Algebraic Combinatorics
  - Real Analysis (future)
  - Physics I: Advanced Classical Mechanics
  - Physics II: Electromagnetism and Electrostatics
  - Physics III: Vibrations and Waves
  - Computer Science Programming in Python
  - Computational Thinking and Data Science
  - Fundamentals of Programming
  - Elements of Software Construction
  - Introduction to C and Assembly
  - Computation Structures
  - Computer Systems Engineering
  - Introduction to Algorithms
  - Computability and Complexity Theory
  - Introduction to Machine Learning
  - Signal Processing
  - Signals, Systems, and Inference
  - Robotic Manipulation
  - Interactive Data Visualization and Society (future)
  - Design for the Web: Languages and User Interfaces (future)
  - Dynamic System Modeling and Control Design (future)

Experience & Activities

MIT EECS Department and MIT Research Laboratory of Electronics

Cambridge, MA

Teaching Assistant for 6.3010 (Signals, Systems, and Inference) — *January 2026 - Present*

- Designed and led weekly recitation sessions for Signals, Systems, and Inference, creating original lesson plans and problem sets to reinforce core concepts
- Held regular office hours, providing one-on-one support to students on homework assignments, exam preparation, and understanding complex course material
- Managed online course communication via Piazza, promptly addressing student questions to clarify lectures and assignments

MIT EECS Department

Cambridge, MA

Lab Assistant for 6.100 and 6.101 & Grader for 6.3000 and 6.1200 — *September 2023 - Present*

- Facilitated weekly open lab hours for introductory programming courses (6.100/6.101), providing conceptual guidance and technical debugging support to students on Python-based projects
- Developed and applied standardized grading rubrics for courses in Signal Processing (6.3000) and Discrete Math (6.1200), delivering constructive, detailed feedback to enhance student understanding of key concepts

MIT Physics Department

Cambridge, MA

Undergraduate Teaching Assistant for 8.02 (Electricity and Magnetism) — *September 2025 - December 2025*

- Facilitated collaborative in-class problem-solving sessions for 8.02 (Electricity and Magnetism), actively guiding student groups through complex concepts and solution strategies

MIT CSAIL MERS Lab

Cambridge, MA

Undergraduate Researcher — *February 2025 - August 2025*

- Designed a machine learning-based pathfinding system for coordinated multi-arm robots, leveraging reinforcement learning and diffusion models to optimize collision-free trajectories in simulated grid-based environments

MIT CSAIL NMS Lab

Cambridge, MA

Undergraduate Researcher — *June 2024 - December 2024*

- Engineered a training pipeline for large language models to create and curate text-based assessment content, directly feeding into the backend of a multi-platform educational app

MIT Kavli Institute

Cambridge, MA

Undergraduate Researcher — *June 2023 - December 2023*

- Developed and applied Gaussian Mixture Models using Python packages to decompose and analyze the kinematic structure of stellar clusters within Gaia DR3, revealing distinct accreted populations

Ross Mathematics Program *Virtual*

Junior Counselor *June 2021 - August 2021*

- Selected as a junior instructor for a competitive and rigorous summer math program, where I facilitated daily seminars on advanced number theory topics and guided students through complex problem-solving in a small-group setting
- Engaged in an intensive academic curriculum alongside instructional duties, mastering advanced undergraduate and graduate-level topics including Geometric Group Theory and Analytic Number Theory

Youth Euclid Association *Pleasanton, CA*

Teacher and Manager *September 2017 - April 2019*

- Designed and delivered an original competition mathematics curriculum for elementary and middle school students, adapting complex problems to be age-appropriate and engaging
- Planned and executed large-scale community events, including intramural sports meets and county-wide math competitions, fostering participation and teamwork
- Founded and coached competitive math teams, preparing students for external competitions and promoting academic excellence
- Managed fundraising initiatives and donation drives that successfully resourced student programs and activities, developing skills in budgeting and community outreach

Honors & Awards

2022 **Valedictorian**, California Connections Academy

2021 **Semifinalist**, National Merit Scholarship Corporation

2020 **Distinguished Honor Roll**, American Mathematics Competitions

2019 **Honorable Mention (tied for 16th)**, Math Prize for Girls

Skills

Programming Languages Python, C, C++, Java, Javascript/Typescript, HTML/CSS, Julia, MATLAB, LaTeX

Mathematics statistics, probability, combinatorics, linear algebra, differential equations

Computer Science computation & complexity theory, algorithmic analysis, machine learning, data analysis, signal processing

Personal problem solving, communication, teamwork, time management