

ISAAC CHENG

Swarthmore College
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EDUCATION

Swarthmore College, Swarthmore, PA

B.A. Candidate, Mathematics, Music, May 2028

GPA: 4.0

Honors: Morris Monsky Prize in Mathematics (2025)

Homeschooled, Nashville, TN

Graduated May 2024

GPA: 4.0; SAT: 800 Verbal / 800 Math

AP Tests: Calculus BC (5), Computer Sci. (5), Physics 1 (5), Chemistry (5), Biology (5)

Honors: National History Day, Top 10 Finalist, Individual Paper (2023)

National Merit Semifinalist (2024)

ACADEMIC PRESENTATIONS

Joint Mathematical Meetings, PME Contributed Session on Research by Undergraduates, “A combinatorial approach to the word problem for p -groups,” Seattle, WA, January 2025 (with K. Chutinan & A. Lee).

Swarthmore College Sigma Xi Poster Session, “A combinatorial approach to the word problem for p -groups,” Swarthmore, PA, September 2024 (with K. Chutinan & A. Lee).

EXPERIENCE

Program in Mathematics for Young Scientists (PROMYS), Boston University, Boston, MA

Head Counselor: Coordinated academic curriculum; supervised and mentored other counselors; managed logistics; supported first year students on number theory problem sets; mentored research project in group theory; wrote and delivered talks on Galois theory and algebraic geometry. June 2026 – August 2026

Counselor: Supported first year students on number theory problem sets; mentored students in research project on Pascal’s triangle; coached ultimate frisbee team; wrote and delivered talks on proof-writing, category theory, homological algebra, and algebraic geometry. June 2025 – August 2025

Second-year student: Studied Galois theory and discrete dynamical systems; attended advanced lectures and mini-courses; worked on research project in group theory. July 2024 – August 2024

First-year student: Solved daily number theory problem sets; attended advanced lectures and mini-courses; participated in a group lab project on Fibonacci Numbers. July 2023 – August 2023

Jewish Middle School of Nashville, Nashville, TN

Math Teacher: Primary teacher and curriculum designer for school’s most advanced math class; teaching assistant in remedial, standard, and advanced math classes for fifth through eighth grades; spearheaded experimental elective on mathematical proof. January 2023 – May 2024

Department of Mathematics and Statistics, Swarthmore College, Swarthmore, PA

Student Researcher: Worked under Professor Jacob Russell; explored automorphisms of the graph of k -separating curves on surfaces. September 2025 – Present

Sforzando Web Designs, Nashville, TN

Founder: Have built about fifteen websites for local nonprofit organizations, friends, and family; both paid and volunteer work. June 2016 – Present

PERSONAL

Interests include reading, baroque music, and pickup basketball.