

# Dennis Chen

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## Education

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### Carnegie Mellon University

Fall 2023 – Spring 2027 (projected)

Pursuing B.S. in Computer Science, M.S. in Mathematics. Major GPA: 4.0. Dean's List: F23, S24, F24

Relevant coursework: Data Structures and Algorithms, Graduate Randomized Data Structures and Algorithms, Introduction to C, Functional Programming, Algebraic Geometry, Graduate Algebra, Vector Analysis, Real Analysis, Theoretical Computer Science, Probability, Model Theory

### Dual enrollment

Courses: Computer Networking (2022), Linear Algebra (2020)

## Experience

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### K-Scale Labs Technical Intern (YC-backed humanoid robots company)

May 2024 – August 2024

Designed an online web store to list humanoid robots and parts. Built user authentication system on DynamoDB and Redis, and used React to implement interactive URDF viewer. Code: [github.com/kscalelabs/store](https://github.com/kscalelabs/store)

Researched policy evaluation of OpenVLA in ManiSkill simulation environment.

Wrote client-server interface to stream Stompy, our humanoid robot, taking actions in a kitchen environment in ManiSkill. Administered the server running the stream.

### Teaching Assistant for CS251 at Carnegie Mellon

August 2024 – May 2025

Led weekly recitations of twenty students through interesting new concepts and tackled challenging problems. Additionally supported student learning by holding office hours and feedback through grading.

### Jane Street First-Year Trading and Technology Program (FTTP)

March 2024

### AlphaStar Academy

December 2020 – July 2021

Developed math curriculum as a part-time employee

### Math Advance

2021 – present

Current director and founder of 501(c)(3) mathematics non-profit: [mathadvance.org](https://mathadvance.org)

## Awards

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### Putnam Top 500 Scorer

2024

### USA Math Olympiad (USAMO) qualifier

2022, 2020

## Publications

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### Proofs in Competition Math: Volume 1

Toller, Alex, et al. Proofs in Competition Math. Vol. 1, Amazon Publishing, 2019.

### Proofs in Competition Math: Volume 2

Toller, Alex, et al. Proofs in Competition Math. Vol. 2, Amazon Publishing, 2019.

## Projects

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### A Primer to Abstract Algebra

A short book covering abstract algebra at an introductory graduate level: [andrew.cmu.edu/~dennisc2/alg-primer.pdf](https://andrew.cmu.edu/~dennisc2/alg-primer.pdf)

### A Brief Foray In Euclidean Geometry

Advanced honors high-school geometry textbook. Chapter 3: [andrew.cmu.edu/~dennisc2/foray.pdf](https://andrew.cmu.edu/~dennisc2/foray.pdf)

### puzz.dennisc.net

Hand-crafted Japanese-style logic puzzles (e.g. Sudoku, Fillomino)

### mapm

Rust library with associated binaries that makes managing math contest problems easy: [sr.ht/~dennisc/mapm](https://sr.ht/~dennisc/mapm)

## Skills

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## Languages and Tools

Rust, C, Python, Standard ML, Node JS, Typescript, React, Postgres, MongoDB, DynamoDB, Redis

## Miscellaneous

Git, HTML, CSS,  $\LaTeX$ , design, Z shell, Bash

## System administration, Linux, NGINX, Certbot, OpenRC

2021 – present

Maintained the Linux server for Math Advance. Daily drive Alpine Linux on sway.