Dennis Chen

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Education

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, Graduate Algebra, Vector Analysis, Real Analysis, Theoretical Computer Science, Probability, Graduate Model Theory

Dual enrollment

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

Experience

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

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 – present

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

Awards

Putnam Top 500 Scorer   2024

USA Math Olympiad (USAMO) qualifier   2022, 2020

Publications

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

A Primer to Abstract Algebra

A short book covering abstract algebra at an introductory graduate level: 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

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

Skills

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.