

education

Sept. '15– **Massachusetts Institute of Technology** Cambridge, MA

Candidate for Bachelors of Science in Mathematics & Computer Science (June 2019)

Coursework includes: Science, Technology, and Public Policy; Design and Analysis of Algorithms; Advanced Complexity Theory; Algebra II; Computation Structures; Combinatorial Theory; Advanced Algorithms; Machine Learning; Computer System Engineering; Introduction to Topology; Computer Language Engineering; Foundations of Information Policy; Interactive Music Systems; Number Theory I; User Interface Design and Implementation

'11–June '15 **International Bilingual School at Hsinchu-Science-Park** Hsinchu, Taiwan

experience

Jun. '18–Aug. '18 **MemSQL** Software Engineering Intern

Improved MemSQL Studio, a React/Redux web interface for managing MemSQL databases. Created Visual Explain, a graphical tool for analyzing the costs and dependencies of operations needed to perform a SQL query, enabling engineers to more effectively optimize queries. The method for rendering operations drew on algorithms research as well as designer input.

Jul. '17–Aug. '17 **MIT Summer Program for Undergraduate Research** Student Researcher

Investigated and simulated (with Python/Sage) algorithms for reconstructing information on trees of noisy channels, a model appearing in information theory, computational biology, and physics. Advised by Ashwin Narayan.

Oct. '16–present **MIT Educational Studies Program** Head webmin, Treasury (Dec '16–)

Maintain and develop esp.mit.edu, a custom Django site for managing large short-term educational programs. The site serves 5,000+ students and 800+ teachers each year with sharp peaks in demand; its codebase is shared by similar programs across the country.

Jun. '16–Aug. '16 **Dropbox** Software Engineering Intern

Implemented a business readiness feature on Dropbox Paper (a collaborative doc editor written in TypeScript), which allows administrators to sign in as team members. Added front-end editor features in React.js.

Nov. '15–present **Student Information Processing Board, MIT** Keyholder, Treasurer (Feb. '16–)

Developed various Perl plugins for BarnOwl, an IM (zephyr) client. Worked on the SIPB office's music player protocol, also in Perl. Manage finances, budgeting, and office supplies.

Sep. '15–now **IDEA MATH** Teacher, Grader

Assist and teach at a weekend mathematics enrichment program for middle- and high-school students for a class of about 15 students. Graded students' submissions to olympiad-level problems for an online course.

Jan.–Aug. '15 **Pointegrity** Programmer

Worked on various projects, including a JavaScript parser and interpreter for a simple programming language designed for code education, and a domino puzzle game.

leadership & activities

- Sep. '17–present **Floor Pi** Hall chair
Coordinated hall meetings, elections, rooming, and budget for a dorm floor of ~30 people.
- Mar. '17 **Galactic Puzzle Hunt** Organizer, programmer
Wrote puzzles for and helped administer a week-long online puzzlehunt, hosted on a custom Django site, in which ~300 teams participated.
- Mar. '14–Jan. '15 **Random Fish, MIT** “Technomage” (programmer)
Refactored and added functionality to Puzzletron (puzzle writing and editing software in PHP) in preparation for hosting the 2015 MIT Mystery Hunt.
- Oct. 2014 **MIGHTY (high-school program)** Lecturer
Presented two 3-hour lessons introducing algorithms and programming competitions to a class of 10–15 at a weekend interdisciplinary class.
- July 2013 **IMOCamp** Student Teacher
Prepared a mathematics lesson plan and problem set in combinatorics, and taught a morning session (about 3 hours) for a class of 30 at an unofficial mathematics olympiad enrichment camp held by former IMO contestants.

awards

- 2017 **N. American Finalist** Cyber Security Awareness Week Capture-the-Flag
- 2016 **Silver medal team** ACM International Collegiate Programming Contest
Honorable Mention William Lowell Putnam Mathematical Competition
- 2015 **Finalist (23rd)** Google Code Jam
Gold medal Asian-Pacific Mathematical Olympiad
- 2014 **Participant** Summer Conference of Tournament of Towns
Gold medal International Olympiad in Informatics
1st HS team Internet Problem Solving Contest
Silver medal Asia-Pacific Informatics Olympiad
4th place team World Scholar’s Cup, Taiwan Round
- 2013 **1st place team** National Problem Solving Contest on Internet
Silver medal Asia-Pacific Mathematical Olympiad
- 2012 **Gold medal** International Mathematical Olympiad
- 2011 **Silver medal** International Mathematical Olympiad
First Prize Tournament of Towns Senior Division
- 2009 **Silver medal** Shing-Tung Yau High School Mathematics Award

languages

fluent English
fluent Mandarin Chinese

programming

Python (Django, Numpy, Mypy),
JavaScript/TypeScript, Haskell,
HTML/CSS, Git, Scala, Perl, Java,
C/C++, PHP, L^AT_EX

interests

puzzles, puzzlehunts, blogging,
singing, guitar