

Education

September 2019 — **Stanford University**, *Master of Science in Mathematics*, Stanford, CA.
April 2023 GPA: 4.0/4.0. Area of Interest: Theoretical Computer Science. Graduation Date: April 2023.

Selected CS Courses.

Advanced Software Development for Scientists and Engineers (CME 211, 212), Machine Learning (CS 229), Artificial Intelligence (CS 221), Data Structures (CS 166), Principles of Computer Systems (CS 110).

Selected Math Courses.

Algebraic Geometry (MATH 216A, 216B), Symplectic Topology (MATH 257A).

September 2015 — **Massachusetts Institute of Technology**, *Bachelor of Science in Mathematics*, Cambridge, MA.
June 2019 GPA: 4.8/5.0. Graduation Date: June 2019.

Work Experience

April 2023 — Present **D.E. Shaw & Co.** — **Quantitative Analyst and Software Developer**, New York City, NY.

September 2022 — **Google** — **Software Engineer Intern**, Sunnyvale, CA.

- December 2022
 - Worked in the Core Compute Analytics team modeling risk management for Cloud (GCE) resources (memory and cores) via Lumos simulations.
 - Authored new Borg simulation modes in C++ and processed the outputted data with SQL.

June 2022 — **Instagram** — **Software Engineer, Machine Learning Intern**, Menlo Park, CA.

- December 2022
 - Worked with state-of-the-art neural network architectures to implement loss terms, labels, and weights
 - Trained multi-task multi-label ML models with Bayesian logic to predict downstream labels.
 - Authored pipelines and analyzed the resulting datasets to detect behavioural patterns.
 - Modified ranking systems to incorporate new value model formulae.
 - Developed new model architecture classes in PyTorch.

March 2022 — June 2022 **Verkada** — **Full Stack Software Engineer Intern**, San Mateo, CA.

- Worked with the AWS Serverless and Lambdas in conjunction with Google Cloud Functions to run scripts on specific triggers.
- Built an email server hosted in AWS VMs with elastic load balancers configured to allow and prohibit specific traffic.

June 2021 — August 2021 **Jane Street Capital** — **Quantitative Trading Intern**, New York City, NY.

- Used SQL and Python (Pandas) to extract and interpret financial market data and build models which predict volumes of different types of securities based on market events in related securities.
- Practiced high-pressure decision-making and communication skills in 40+ hours of simulated trading sessions.

September 2019 — **Stanford University** — **Teaching Assistant**, Stanford, CA.

- March 2022 Course assistant and teaching assistant in several mathematics courses.

Selected Honors

Summer 2015 **2015 International Mathematics Olympiad (IMO)**, Chiang Mai, Thailand.
Gold Medal. Third ever Mexico team member to achieve this recognition.

Summer 2014 **2014 International Mathematics Olympiad (IMO)**, Cape Town, South Africa.
Silver Medal.

Summer 2013 **2013 International Mathematics Olympiad (IMO)**, Santa Marta, Colombia.
Silver Medal.

Technologies

Languages Proficient: Python, C/C++, SQL. Intermediate: Lua, GCL. Beginner: JavaScript, OCaml
Other PyTorch, Command Line, Git, L^AT_EX, Mercurial, Cron, Pandas