Eugene Francisco

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Education

Stanford University — Stanford, CA
Bachelor of Science, Mathematics; GPA: 4.04 — *Expected Graduation: June 2027*

School for Advanced Studies — Miami, FL
Associate of Arts earned while dual enrolled in high school — *August 2021 – June 2023*

Experience

Citadel Securities — June 2027 – August 2027
Quantitative Research Internship — *Miami, FL*

Stanford Undergraduate Research Institute in Mathematics — June 2026 – August 2026
Undergraduate Researcher — *Stanford, CA*
- Research in knot theory.

SpaceX — June 2025 – September 2025
Software Engineering Intern — *Hawthorne, CA*
- Writing flight software for the Falcon 9 flight computers. Also launch operation work (sitting on console) for Falcon 9 missions as part of the flight software team.

Undergraduate Teaching Assistant — September 2024 – June 2025
Stanford University — *Stanford, CA*
- Teach concepts and algorithms from the Python and C++ sequence of Stanford courses in a weekly section.

Stanford Math Tournament — September 2024 – June 2025
Problem Writer — *Stanford, CA*
- Write combinatorics and probability problems for the Stanford Math Tournament.

Beekeeper — July 2024 – September 2024
Old Mill Apiaries, Private Farm — *Dumfries, Scotland*
- Managing hives and extracting honey during peak season for the bees.

Projects

Choko-Zero — May 2025
- For CS-224R at Stanford, using Proximal Policy Optimization (PPO) and a Policy Guided Tree Search (PGTS) to learn Choko, a West African board game. Project write-up here.

Deep Q-Learning for Option Pricing — March 2025
- For CME 241 at Stanford, a project to show how option prices can be learned by using deep Q-learning and treating pricing as an MDP problem. Project write-up here.

Visualizing the Itô Correction — September 2024
- Wrote this to visualize how quadratic variation of SDEs with Brownian Motion gives rise to the Itô correction.

Finding Generators in Finite Fields — July 2024
- Wrote this calculator to help find orders of different polynomials in finite fields of size p^2.

Relevant Coursework

Spectral Graph Theory and Abstract Algebra | *Stanford Directed Reading Program*
- Quarter-long reading program on spectral graph theory, expanders, pseudo-randomness, and tournament constructions. Advised by Maya Sankar.

Stochastic Processes | *Math 136, A*
- Markov processes; Martingales; different types of integrability; Brownian motion.

Modern Learning Theory | *Stats 315A, A*
- Theoretical ML. Mostly diffusion, attention, and trees.

Reinforcement Learning for Stochastic Finance | *CME 241, A+*
- RL through the lens of finance; MDPs and different Q-learning algorithms.