Glenn Sun

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Education

Sep. 2019 – Jun. 2023 **B.S./M.A. Mathematics (combined)**, *University of California, Los Angeles*.
Current GPA: 3.87.

Teaching Experience

Oct. 2020 – Present **Lead Instructor**, *UCLA Olga Radko Endowed Math Circle (formerly known as Los Angeles Math Circle)*, 7 hr/wk.
- Teach a class of 20 high school students once per week on Sundays
- Collaborate with other instructors to develop curriculum; topics include P vs. NP, Axiom of Choice, quadratic reciprocity, Brower's fixed point theorem, etc.
- Engage students by creating exercises and handouts that guide discovery of theorems, rather than purely giving lecture
- Coordinate teaching assistants and incorporate their feedback into handouts

Oct. 2020 – Mar. 2021 **Grader**, *UCLA Department of Mathematics*, 10 hr/wk.
- Grade weekly quizzes or homework for proof-based linear algebra class of 40 students
- Provide students with detailed individualized feedback on Gradescope

Oct. 2019 – Aug. 2020 **Teaching Assistant**, *Los Angeles Math Circle*, 4 hr/wk.
- Assisted a group of 5 high school students (class of 20) once per week on Sundays by providing hints and explaining key concepts
- Provided feedback on weekly handouts written by lead instructors

Jun. 2020 – Jul. 2020 **Teaching Assistant**, *AwesomeMath Summer Program*, 25 hr/wk.
- Taught AIME/USAMO-preparatory classes of 25 students in Algebra and Number Theory
- Independently ran review and problem solving sessions; answered questions during lectures
- Provided office hours twice per week, graded exams, and scribed official lecture notes

Jun. 2018 – Jul. 2018 **Teaching Assistant**, *Program for Algorithmic and Combinatorial Thinking*, 15 hr/wk.
- Mentored 9 high school students daily on proofs and discrete math
- Wrote exam questions in collaboration with other TAs, graded exams and daily homework
- Provided individual tutoring for students and witnessed improved exam scores as a result

Research Experience

May 2021 – Present **Undergraduate Researcher**, *DIMACS REU at Rutgers University—New Brunswick*.
- Advisor: Sepehr Assadi
- We study the graph coloring problem in the streaming model of computation, where despite graphs having up to $O(n^2)$ edges, we can only store $O(n \operatorname{polylog} n)$ bits of data. The problem was recently resolved using randomization, and our goal is to investigate the problem deterministically.
- Proved a novel lower bound and formally wrote up the result in LaTeX.

Jun. 2020 – Mar. 2021 **Undergraduate Researcher**, *Northwestern University*.
Visualization Equilibrium, with Jason Hartline, Jessica Hullman, and Paula Kayongo. Submitted to IEEE VIS 2021.
- Advisor: Jessica Hullman
- When playing (game-theoretic) games repeatedly, human behavior tends to converge to an empirical equilibrium. We studied how this equilibrium is affected by the style of visualization used to communicate the data, and consequently how to increase average payoffs at equilibrium through better visualizations.
- Read about algorithmic game theory, behavioral game theory, and visualization research.
- Helped form the research question using R simulations and mathematical proof to demonstrate the (in)feasibility of ideas.
- Wrote parts of the study website in HTML/CSS/JavaScript and analyzed results in R.

Software and Hackathons

List of Known Languages and Libraries.
- LaTeX (beamer, tikz, bibtex, most standard libraries)
- Python (NumPy, Pandas, Matplotlib, TensorFlow, Jupyter Notebook, Flask)
- JavaScript (Node.js, React, Electron, p5.js), HTML/CSS
- GitHub, Linux, SSH, Google Cloud, AWS
- Some familiarity with: R, MATLAB, C++, Lean

Mar. 2020 **Best Use of Google Cloud, Best Collaboration Hack**, *LA Hacks (of 192 hacks)*.
- Created an SMS/voice call interface for Google Classroom, for students without internet
- Features included dictation for essays, photo stitching for increased resolution
- Technologies used: Flask (Python), various APIs (Google, Twilio)

Sep. 2019 **Best Hack for Resilience**, *PennApps (of 242 hacks)*.
- Created a proof-of-concept for an application that eases saving and investing money based on recommendations from reputable sources
- Technologies used: HTML/CSS/JavaScript, various APIs (Goldman Sachs)

Feb. 2019 – Mar. 2019 **Software Intern**, *JP Morgan Chase*.
- Evaluated data transfer efficiency between different configurations of cloud databases
- Summarized findings in written report and made presentation
- Technologies used: Python, SQL, AWS S3 and EC2, Snowflake

Other

Dec. 2019 **Putnam Competition**, 30 points, rank 276.

Mar. 2019 **AIME Competition**, 9 points.

Oct. 2016 – Jun. 2018 **Volunteer Go Instructor**, *East Brunswick Public Library*.