Justin Sun

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Education

Aug 2021-May 2023	Master of Science in Mathematics, **Carnegie Mellon University** Thesis: *TBD* Advised by Giovanni Leoni
Aug 2019-May 2023	Bachelor of Science, **Carnegie Mellon University** Major in Mathematical Sciences, Minor in Computer Science | Courses GPA: 4.0/4

Awards and Scholarships

May 2021, 2022	Richard A. Moore Award (CMU)
Dec 2021	Putnam Exam Top 200
Dec 2018	USACO Platinum

Work and Research Experience

Aug 2021-Dec 2022 — Teaching Assistant, CMU

Teaching assistant for 21-242 Matrix Theory, 15-451 Algorithm Design and Analysis, and 21-237 Math Studies Algebra 1. Led weekly recitations, compiled lecture notes, and held both office hours and review sessions.

May 2022-Aug 2022 — Quantitative Trading Intern, Jane Street

Intern under Options and Equities desks. Used Pandas and Excel to build models pricing Crude Oil options and predicting equity market volumes. Excelled in internal algorithmic trading competition.

May 2021-Aug 2021 — Software Engineering Intern, Facebook

Intern on Core Data. Built Python implementation of client-side Datatype framework for accessing Facebook Memcache.

May 2020-Aug 2020 — Research Assistant, Dept. of Mathematics at CMU

Research in Theoretical Computer Science and Additive Combinatorics under the supervision of Professor Kaave Hosseini, studying the NP-hardness of various decision problems relating to Cayley Graphs, Boolean satisfiability, and integer polynomials.

Jun 2020-Aug 2020 — Counselor, Ross Mathematics Program

Mentored group of five high school students through condensed undergraduate Number Theory course. Took advanced courses in Analytic Number Theory, Complex Analysis, Ergodic Theory, and Linear Algebra.

2017: First-year participant

2018: Junior Counselor

2019 & 2020: Counselor

Jun 2019 — Math Instructor, Alphastar Academy

Created, developed, and taught intensive 4-block 3-week curriculum to promote problem solving and competition skills.

Interests and Activities

- **Volunteering**: Volunteer at CMIMC (CMU) competition.
- **Programming**: C/C++, Python, Java, LaTeX.
- **Other Interests**: Mechanical Keyboards, Poker, Cycling, Cinematography, Cooking.

Bachelor/Master of Science in Mathematics

Grades

Course Code	Course Title	Grade	Credit Hrs
21-820	Advanced Topics in Analysis: Functions of Bounded Variation	A	12
21-752	Algebraic Topology	A	12
21-738	Extremal Combinatorics	A	12
21-723	Advanced Real Analysis	A	12
21-720	Measure and Integration	A	12
21-623	Complex Analysis	A	12
21-599	Reading and Research: Algebraic Number Theory	A	6
21-238	Mathematical Studies Algebra II	A	12
21-237	Mathematical Studies Algebra I	A	12
21-236	Mathematical Studies Analysis II	A	12
21-235	Mathematical Studies Analysis I	A	12
21-329	Set Theory	A	9
21-325	Probability	A	9
21-295	Putnam Seminar	A	3
21-269	Vector Analysis	A	10
21-242	Matrix Theory	A	10
21-260	Differential Equations	A	9
10-725	Convex Optimization	A	12
15-751	A Theorist's Toolkit	A	12
15-459	Quantum Computation	A	9
15-451	Algorithm Design and Analysis	A	12
15-295	Competitive Programming	A	5
15-251	Great Ideas in Theoretical Computer Science	A	12
15-210	Parallel and Sequential Data Structures and Algorithms	A	12
15-150	Principles of Functional Programming	A	10
15-122	Principles of Imperative Computing	A	10
	GPA	**4.0/4.0**	