Justin Sun

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EDUCATION

Carnegie Mellon University **Aug. 2019 – expected May 2023**

BS, Double Major: Mathematical Sciences and Computer Science

- Honors Math Program, GPA: 4.0/4.0, Richard A. Moore Scholar
- Putnam Top 500 (rank 227)
- Coursework (* for graduate coursework): Math Studies Algebra, Math Studies Analysis, Complex Analysis*, Measure and Integration*, Algebraic Topology*, Probability, Great Ideas in Theoretical Computer Science, Functional Programming, Algorithm Design and Analysis, Quantum Computation
- Math Club, CMIMC Software Team, Origami Club, Poker Club, Badminton Club

Saratoga High School **Aug. 2015 – Jun. 2019**

- GPA: 4.43, Very High Honors, National Merit Finalist
- USA Computing Olympiad Platinum Division
- AIME 4x Qualifier, High Score of 10; AMC 10/12 Distinguished Honor Roll

EXPERIENCE

Jane Street Capital **Jun. 2022 – Aug. 2022**

Incoming Quantitative Trading Intern

Facebook Inc. **May 2021 – Aug. 2021**

Software Engineering Intern, Core Data

- Built Python implementation of client-side Datatype framework for accessing Facebook Memcache.
- Implemented lease functionality settings for improved lookaside caching functionality.
- Improved key generation namespacing using Cython, allowing cross platform support for Datatype across FBCode and Instagram.
- Added support for Facebook logging services like Scuba and ODS, streamlining data for memcache users.

Carnegie Mellon University Department of Mathematics **Aug. 2021 – Dec. 2021**

Teaching Assistant, 21-242 Matrix Theory

- TA for 21-242 freshman honors linear algebra course.
- Lead weekly recitations to class of 20-30 students, compile lecture notes, hold review sessions and office hours.

Carnegie Mellon Research topics in Discrete Mathematics **May 2020 – Aug. 2020**

Research Assistant

- Researched with professor Kaave Hosseini in Theoretical Computer Science and Additive Combinatorics.
- Developed and proved several conjectures on the NP-hardness of various decision problems relating to Cayley Graphs, Boolean satisfiability, sum sets, and integer polynomials.
- Utilized software like C++ and MATLAB to develop various approximation algorithms and solve integer programming problems to gain computational insight.

Ross Mathematics Program **Jun. 2020 – Aug. 2020**

Counselor (2019, 2020), Junior Counselor (2018), First-Year Student (2017)

- Mentored group of five high school students through a condensed college level Number Theory course.
- Took advanced courses in Analytic Number Theory, Complex Analysis, Ergodic Theory, and Abstract Algebra.

SKILLS AND OTHER INTERESTS

- **Skills:** Java, C++, Python, Standard Machine Language, LaTeX, Mandarin, Spanish
- **Interests:** Mechanical Keyboards; Cycling; Poker; Cinematography; Cooking