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Juan Carlos Ortiz

Education

Fall 2019 - Present **Stanford University**, *PhD in Mathematics*, Stanford, CA.
Expected Completion Date: 2024. I passed my qualifying exams in April 2020.
Area of Research: Theoretical Computer Science

Selected CS Courses.
Software Development for Scientists and Engineers (CME 211), Machine Learning (CS 229), Practical Machine Learning (CS 329P), Artificial Intelligence (CS 221), Data Structures (CS 166), The Modern Algorithmic Toolbox (CS 168).

Selected Math Courses.
Algebraic Geometry 1 and 2 (MATH 216A and B), Symplectic Topology (MATH 257A), Real Analysis 1 and 2 (MATH 205A and B).

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

Selected CS Courses.
Theory of Computation (6.840).

Selected Math Courses.
Theory of Probability (18.175), Graduate Topology Seminar (18.919), Riemann Surfaces (18.116).

Selected Honors

Summer 2015 **International Mathematics Olympiad (IMO)**, *Chiang Mai*, Thailand.
2015 - Gold Medal. Third ever Mexican participant to achieve this recognition.

Work Experience

Summer 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.

Fall 2019-Present **Teaching Assistant**, *Stanford*, CA.
- Teaching Assistant for Linear Algebra and Multi-Variable Calculus (MATH 51, Winter 2021).
- Course Assistant for Applied Number Theory (MATH 110, Spring 2020).
- Course Assistant for Fundamental Concepts of Analysis (MATH 171, Spring 2021).

Technologies

Languages Python: Proficient, C++: Intermediate, JavaScript: Beginner, OCaml: Beginner

Other Linux, Git, LaTeX

Selected Mathematics Research

Fall 2018 **UROP program at MIT**, *Cambridge*, MA.
Mentor: *Dr. Matthew Stoffregen.*
- Conducted research on the Heegaard-Floer and Lagrangian-Floer homology theories, and their applications to the study of the infinite cobordism group.

Summer 2018 **UROP+ program at MIT**, *Cambridge*, MA.
Mentors: *Piotr Suwara, Dr. Matthew Stoffregen.*
- Conducted research on the Steenrod Square on Khovanov-like knot homologies. The final paper can be found at: `https://math.mit.edu/research/undergraduate/urop-plus/documents/2018/Ortiz.pdf`.

Summer 2017 **SPUR program at MIT**, *Cambridge*, MA.
Mentor: *Jackson Hance.*
- Conducted research in algebraic topology and geometric topology. The final paper can be found at: `https://math.mit.edu/research/undergraduate/spur/documents/2017Ortiz.pdf`.