

Ryan Marin

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EDUCATION

Princeton University, *Physics, A.B.*

2021 – 2025
Princeton, NJ

- **GPA:** 3.7
- **Activities:** Princeton Charter Club, Princeton University Climbing Team, Whig-Clio
- **Awards:** *Manfred Pyka Memorial Physics Prize* (x2): given to outstanding Physics undergraduates for excellence in course work (2022, 2023)
- **Relevant Coursework:** Statistical Mechanics, Quantum Field Theory, General Relativity, String Theory, Stochastic Processes, Differential Geometry, Complex Analysis, Algebraic Geometry, Algebraic Topology

San Juan Hills High School, *General Studies, Valedictorian*

2017 – 2021
San Juan
Capistrano, CA

- **GPA:** 4.000/4.924
- **ACT/SAT:** 36/36, 1580/1600
- **Awards:** U.S. Physics Olympiad *Semifinalist* (2020), *National AP Scholar* (2021)

WORK

Jane Street, *Quantitative Trading Intern*

2024
New York City, NY

Over the course of 11 weeks, researched on two desks and attended daily courses on algorithmic trading & mathematical modeling

Options:

- Developed functional regression techniques to detect structural misalignments in event-driven volatility surfaces

Domestic ETFs

- Developed a predictive algorithm to trade on interest rate fluctuations in tax instruments

Tiger Capital Management, *Analyst; Technology* (2021), *Industrials & Energy* (2022)

2021 – 2023
Princeton, NJ

- Produced company models, DCFs, wrote and pitched stock evaluations
- Balanced portfolio for largest, oldest fund at Princeton (>150k AUM)

RESEARCH

Institute for Advanced Study, *Thesis Research*

Jun 2024 – present
Princeton, NJ

- Thesis Topic: Generalized Symmetry and Holographic Duality in AdS_2 Quantum Gravity
- Working under the mentorship of **Juan Maldacena**, *Carl P. Feinberg Professor, IAS*

Princeton University, *Junior Paper*

2023 – 2024
Princeton, NJ

- Research on Extremal Reissner-Nördstrom black holes and their violation of the third law of black hole thermodynamics [S. W. Hawking, 1973]
- Published a novel AdS_4 extension of [Kiele & Unger, 2022] C^k -manifold gluing technique [arXiv/2411.17938]
- **Advisors:** Mihalis Dafermos; Frans Pretorius

Princeton University, *Undergraduate Research*

2024
Princeton, NJ

- Studied the quasi-analytic transition between self-gravitating strings and black holes
- Wrote literature review on modern methods in analysis
- **Advisors:** Nissan Itzhaki; Simone Giombi

MISCELLANEOUS

Languages: English [Native], French [C1], Chinese (普通话) [B1], Akkadian (Old Babylonian) [A2]

Technical Skills: Python, Java, LaTeX, Excel, Mathematica, MATLAB

Interests: Linguistics, Rock Climbing, Jazz, Aviation, Category Theory