Hadrian (Ian) Fratarcangeli

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Education

Master of Science: Applied Mathematics and Statistics, *Stony Brook University* — **Aug 2025 — Dec 2026**
Bachelor of Arts: Mathematics and Computer Science, *Hamilton College* — **Aug 2021 — May 2025**
Cumulative GPA: 3.77
NESCAC All-Academic Team

Employment

AI Expert Trainer — **June 2025 — Present**
Data Annotation — *Remote*

- Generating coding prompts for LLM's coupled with codebases for testing model correctness, instruction following, and efficiency
- Writing solutions to coding prompts along with reports for the LLM to learn from

Informational Technology Intern — **May 2024 — Aug 2024**
Oppenheimer & Co. Inc. — *New York, NY*

- Developed and optimized backend endpoints for the financial advisor platform, enhancing system performance and user experience.
- Implemented unit tests to ensure the reliability and functionality of new and existing code.
- Wrote SQL queries to retrieve and analyze data from company databases, supporting backend development and ensuring data accuracy.
- Participated in stand-ups and code reviews using the Agile development process.
- Led winning intern team on an equity research project, analyzing market data to develop a diversified portfolio that we presented to a board of managing directors.

Computer Science Teaching Assistant — **Aug 2022 — May 2025**
Hamilton College — *Clinton, NY*

- Supporting students in understanding and completing coding labs, providing guidance on programming concepts, debugging, and problem-solving.

Client Success Intern — **May 2022 — Aug 2022, May 2023 — Aug 2023**
Predictive Success Corporation — *Whitby, Ontario, Canada*

- Established a client sales performance map in Excel that evaluates a sales department based on proprietary Predictive Success metrics.

Projects/Experience

LSTM-MLP Option Pricer — **July 2025**

- Developed an LSTM-MLP hybrid model using PyTorch to better forecast option value by integrating sequential and dense layers.

CUSUM Change Point Detection Algorithm — **July 2025**

- Created an interactive Streamlit application to detect change points in financial time series using CUSUM methodology with kernel-based and likelihood-based methods.

Monte Carlo Option Pricer — **June 2025**

- Simulated risk-neutral asset paths using both Geometric Brownian Motion and Heston stochastic volatility to capture market dynamics for option pricing.

NFL Big Data Bowl 2024 — **Nov 2023 — Jan 2024**

- Implemented machine learning techniques on frame-by-frame data in R to develop an influence metric for defensive players for each play in the NFL's annual competition.

Psi Upsilon Undergraduate Endowment Committee — **Dec 2023 — May 2025**

- Served as a member on the student-led financial committee that manages the endowment of the fraternity.

Activities

Hamilton College Football, *Captain*
Psi Upsilon Psi Chapter, *President*

Skills

Tools and Languages	Python, C++, R, SQL, PyTorch, NumPy, Pandas, Git, Scikit-learn, Excel, LaTeX
Interpersonal	Leadership, Teamwork, Responsibility, Dependability, Flexibility