Hadrian Fratarcangeli

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Education

Master of Science Candidate: 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 Football Team

Employment

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

- Generate coding prompts for Large Language Models (LLM's) coupled with codebases for testing model correctness, instruction following, and efficiency.
- Write solutions to coding prompts and evaluation 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*

- Supported students in understanding and completing coding labs.
- Provided 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 to evaluate a sales department based on proprietary Predictive Success metrics.

Projects/Experience

LSTM-MLP Option Pricer **July 2025**

- Developed a 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.

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.

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

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

Activities

Hamilton College Football, *Captain* **Dec 2023 — Nov 2024**
Psi Upsilon Psi Chapter, *President* **Jan 2024 — Dec 2024**

Skills

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