

Matt McManus

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EDUCATION

Massachusetts Institute of Technology

Master of Engineering in Computer Science & Engineering; Concentration in Artificial Intelligence
Bachelor of Science in Computer Science

Cambridge, MA

Graduated Jun 2024

Graduated Feb. 2024

- **Activities and Societies:** MIT Pokerbots, MIT Varsity Squash, Phi Kappa Theta Fraternity, MIT Bitcoin Club
- **Relevant Coursework:** Machine Learning | Large Language Models & Beyond | Multi-Agent Communication | Modeling with ML | Scientific Machine Learning | Algorithms | Linear Algebra | Probability & Statistics | Computer Systems Engineering

WORK EXPERIENCE

Bridgewater Associates - AIA Labs

Research Scientist & Investment Engineer

New York, NY

Sept. 2024 – Current

- Working with Daniel Kang to benchmark our internal temporal search system
- Built a “no-peek” data-windowing pipeline keyed to news_end_date, speeding thematic analysis 4×.
- Developing transformer now-casting models that blend alt-data with market signals; early tests cut GDP-RMSE 15 %.

Bridgewater Associates

Investment Engineer Intern

Westport, CT

Jun 2023 – Aug. 2023

- Contributed to the development of data models and algorithmic systems to solve complex investment problems
- Designed a statistical instrument for more effective analysis of macroeconomic trends across multiple investible markets
- Assisted in analyzing markets, finance, and investing to support the investment process

Delphi Digital

Quantitative Analyst

Cambridge, MA

May 2022 – Aug. 2022

- Created a risk framework for a new protocol being launched by Delphi Digital
- Analyzed various statistical and machine learning techniques to help create a more quantitative approach to assessing risk
- Researched ways to better assess different decentralized finance risk parameters

Performance Trust Capital Partners

Trading Intern

Chicago, IL

Jun 2021 – Aug. 2021

- Developed Python application to parse thousands of financial lists from textual data sources
- Automatically mapped application to Bloomberg’s API to identify new mortgage-backed securities
- Aggregated and cleaned a dataset of over 12,000 mortgages to identify new trading opportunities

RESEARCH EXPERIENCE

MIT Computer Science and Artificial Intelligence Laboratory (CSAIL) - Julia Lab

Graduate Researcher

Cambridge, MA

Sept. 2023 – May. 2024

- Developed a Scientific Machine Learning (SciML) methodology to reduce drift in Inertial Navigation Systems (INS)
- Integrated neural networks with traditional INS components to capture complex error patterns
- Demonstrated improvements in predictive performance compared to Kalman filtering, with potential applications in economic forecasting

MIT Computer Science and Artificial Intelligence Laboratory (CSAIL) – ALFA Group

Research Assistant

Cambridge, MA

May. 2022 – May. 2023

- Simulating agents capable of learning (via different ML techniques) and cooperating (via direct or implicit communication)
- Assisting in the development of the cyber security network simulator that we will use in our research

Graduate Machine Learning (6.867)

Student

Cambridge, MA

Sept. 2021 – Dec. 2021

- Developed a novel algorithm for learning low-complexity solutions for interpolating deep neural networks via projection
- Designed, Implemented and Tested our projection algorithm which was able to outperform most current models

EXTRACURRICULAR EXPERIENCE

MIT Pokerbots

President, Head Instructor

Cambridge, MA

Sept. 2020 – May 2023

- Led a seven-person team running a four-week AI poker competition for 250+ MIT & Harvard students.
- Secured \$100 k+ sponsorships and managed all teaching-material and prize budgets

MIT HKN

Undergraduate Tutor

Cambridge, MA

Sept. 2019 – May 2023

- Individually tutor over a dozen students in Intro to Computer Science and Introduction to Algorithms classes
- Assist students in debugging homework code while demonstrating proper principles of software engineering

MIT Varsity Squash

Member

Cambridge, MA

Sept. 2019 – May 2024

- Achieved a National Team Ranking of 16th in the U.S. during the 2023 – 2024 season
- Starter for all four years, demonstrating commitment, leadership, and high-level performance

SKILLS AND INTERESTS

- **Languages & Tools:** Python | Scala | Java | C++ | Go | SQL/Spark | Docker | Kubernetes | Git
- **Machine Learning:** PyTorch | Hugging Face | scikit-learn | XGBoost | MLflow | Pandas | NumPy
- **Interests:** Running | Generative AI | Photography | Crypto | Macroeconomics | Squash