Mark Jabbour

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EDUCATION

Massachusetts Institute of Technology Cambridge, MA
Candidate for a Masters in Computer Science *Sep 2023 - December 2024*

- **Thesis Topic:** Exploring the connection between transformers and Empirical Bayes with Professor Yury Polyanskiy.
- **Relevant Coursework:** Stochastic Processes (6.7720), Information Theory: from Coding to Learning (6.7480)
- **Graduate TA:** Theory of Computation (18.404), Symmetry and Machine Learning (6.S966), Database Systems (6.5830)

B.S. in Computer Science and Mathematics *October 2019 – June 2023*

- **Relevant Coursework:** Effecient ML (6.s965), Machine Learning (6.867), Secure Hardware Design (6.888), Computer System Security (6.858), Foundation of Cryptography (6.875), Eliptic Curves (18.783), Advanced Topics in Combinatorics (18.218), Advanced Topics In Theoretical Computer Science (6.890), Mathematical Problem Solving (18.A34)

AWARDS

International Mathematical Olympiad (IMO) Silver Medal 2017, Bronze Medal 2016-2018

William Lowell Putnam Competition: Participated in 2019. Scored 33 / 120, ranking 227 / 3248 competitors.

Asian Pacific Mathematical Olympiad (APMO) Honorable Mention 2017- 2018

Syrian Central Mathematical Olympiad Bronze Medal 2014

INTERNSHIPS

Point72 Asset Management NYC
Quantitative Research Intern *Summer 2024*

- Demonstrated seasonal patterns, and lead in the effect of sell-side estimates on stock price.
- Presented finding to the team, highlighting the potential to use these patterns to take positions based on in-house analyst estimates.

Vatic Investments NYC
Quantitative Research Intern *Summer 2023*

- Implemented a research pipeline using numpy, pandas, and cloud APIs; used it to normalize HFT features accross assets
- Demonstrated the efficacy of the normalized features by training a cross sectional model with weight-sharing. Compared to a baseline that does-not share weights, the shared-weights model achieved at least 95% of the accuracy on each asset while using only a fraction of the number of parameters.

Jump Crypto Chicago
Software Engineering Intern *Summer 2022*

- Designed and Implemented a time window price average feature for Pyth on Solana using their Rust-SDK
- Proposed roadmap to migrate from C to Rust, gained buy-in from leadership, and started that effort

Galaxy Digital NYC
Research and Principal Investment Intern *Summer 2021*

- Researched Zero Knowledge Proof (ZKP) protocols, and presented my findings to the Principal Investment team
- Correctly predicted that Plonk-based ZKPs would become popular for larger systems, even though their implementations were slower at the time of my internship

VOLUNTEER

MIT Computational Mathematics Education Initiative Cambridge, MA
Instructor *IAP 2023, 2024*

- Contributed to two student-run classes: Probability Problem Solving (6.S095) and Multidimensional Statistics (6.s087)

MIT Battlecode Cambridge, MA
Organizing Team *April 2020 – Spring 2023*

- Co-lead the effort for shipping the new visualizer for the Battlecode 2023. The visualizer was used by 5k+ participants.
- Maintained our Java and Python game engines
- Contributed to game design, logistics, and sponsor outreach

Subcommittees for the Syrian Scientific Olympiads Latakia, Syria
Member *August 2018 – September 2019*

- Hosted an intensive local training program before the Syrian Central Mathematical Olympiad
- Assisted in regional test logistics, and convinced leadership to change the eligibility criteria for the national team

SKILLS

Programming Languages. Python, C++, C, Golang, Rust, Java, JavaScript, Solidity.
Technologies. Git, Docker, NumPy, Xarray, Pandas, Dask, Statsmodels, scikit-learn, matplotlib, PyTorch, JAX, Flask