THEODOSIOS (THEO) DIMITRASOPOULOS

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ACTIVITIES

Social Chair
Princeton Terrace Club
• Hosted social events and activities for 180 student members, managing a $250,000 annual budget;

Student Athlete
Princeton Varsity Rowing
• Weekly 20-hour practice and weekend regattas (lightweight men's eight, bowman)

EDUCATION

Stevens Institute of Technology
School of Business
Master of Science (MS),
- Financial Engineering

Select Coursework
• Pricing and Hedging
• Portfolio Theory
• Advanced Derivatives
• Risk Engineering
• Computational Methods in Finance
• Private Equity and Venture Capital
• Financial Machine Learning
• Market Microstructure & Trading Strategies
• Stochastic Calculus

Princeton University
School of Engineering & Applied Science
Bachelor of Science in Engineering (BSE),
- Civil & Environmental Engineering
- Minor in Architectural Computation

Select Coursework
• Statistical Learning and Data Science
• Probability Theory
• Statistics
• Honors Linear Algebra
• Multivariable Calculus
• Finite Element Analysis
• Differential Equations
• Skyscraper Design

PROFESSIONAL SUMMARY

Portfolio Optimization, Optimal Execution quantitative developer with experience using Python, APIs, Git, and various scientific packages (pandas, numpy, scipy, scikit-learn, streamlit, anthropic, statsmodels, torch).

CORE COMPETENCIES

• Technology skills: Python, Linux, Git, CI/CD pipelines, PyCharm, Visual Studio, Microsoft Excel, Typesetting (LaTeX).
• Modeling skills: Efficient Frontiers, Portfolio Optimization.
• Subject matter expertise of equity risk topics and construction of basic factors in equity analysis: liquidity, predicted future volume, optimal execution price,
• Basic proficiency in options pricing and trading techniques.

EXPERIENCE

Associate (Quant Development) - *Instinet, Nomura Securities, London, UK* *2024-2026*
• Explored TradeSpex (in-house data API) to identify new opportunities in algorithm design and to improve existing infrastructure (API calls, data analysis for factor construction etc.)
• Managed the development a trade optimiser to serve impact and bin-by-bin (intraday minute) efficient trading frontier vectors to our traders and clients (separate revenue stream for external clients pulling data from the service) with the team.
• Managed CI/CD pipelines for DataJobs with in-house SQL databases and side-development with DBVisualizer.

Associate (Quant Development) - *Instinet, Nomura Securities, New York, NY* *2023-2024*
• Continuously developed and updated a trade optimizer to serve impact and bin-by-bin (intraday minute) efficient trading frontier vectors to our traders and clients (separate revenue stream for external clients pulling data from the service) with the team.

Analyst (Quant Development) - *Instinet, Nomura Securities, New York, NY* *2021-2023*
• Built multi-region trading optimisation infrastructure to supplement our machine learning engine with the team. SARA is an API delivering the trade optimizer values diretly to the traders.

Fall Analyst - *Instinet, Nomura Securities, New York, NY* *Fall 2020*
• Built an automated test case engine to improve gateway functionality (Latency Sensitive Electronic Trading group).

Summer Analyst - *Instinet, Nomura Securities, New York, NY* *Summer 2020*
• Developed state change propagation algorithms to improve order delivery (LSET group).

Research Engineer - *Terreform ONE, New Lab, Brooklyn, NY* *2018-2020*
• Led Simulation & Fabrication team in large-scale rapid prototyping projects, NY, Tel Aviv.
• Authored grant proposals and presented to investors as well as the public.

RESEARCH

Regime Detection using Hidden Markov and Support Vector Machines
• Created/backtested HMM and SVM classifiers on ETF time series to infer bull, bear and transition regimes from return and volatility and improve short-term predictions for stock returns.

Hierarchical Risk Parity — Allocation Without Return Forecasts
• Hierarchical Risk Parity (HRP) sidesteps the famously error-maxing behavior of mean-variance optimization by using a hierarchical clustering of the covariance matrix to allocate risk recursively, requiring no return forecasts and producing portfolios that are far more stable OOS.

Optimal Trade Execution — Almgren-Chriss and Reinforcement Learning
• Created a closed-form trajectory that minimises the expected execution cost plus a risk-aversion-weighted variance of implementation shortfall, tracing an efficient frontier from gradual TWAP-like liquidation to aggressive front-loading.