TOMAS ESPAÑA

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EXPERIENCE

Scuola Normale Superiore of Pisa *Pisa, Italy*
Research Intern *4 months – 2025*

- Reinforcement Learning for Optimal Execution with the Queue Reactive Model
- Supervisors: Yadh Hafsi, Edoardo Vittori, Fabrizio Lillo

EconophysiX - CFM Chair of Econophysics & Complex Systems at Ecole Polytechnique *Paris, France*
Research Intern *6 months – 2024*

- High-dimensional Statistics, Random Matrix Theory, Portfolio Optimization
- Supervisors: Victor Le Coz, Matteo Smerlak, Jean-Philippe Bouchaud

CFM - Capital Fund Management *Paris, France*
Quantitative Research Intern *6 months – 2023*

- Market Latency (Queueing Theory & Optimization) and Market Microstructure for the Execution Strategies team
- Coded a latency simulator of the CFM order pipeline to improve execution speed.

EDUCATION

Operations Research & Financial Engineering - Princeton University *Princeton, NJ*
First-year PhD student *2025 – Present*

M2MO - Université Paris Cité *Paris, France*
MS in Mathematics: Probability, Finance & Data Science *2024 – 2025*

- One of the top-ranking MS in Probability and Finance (ex DEA Laure Elie). Double degree with CentraleSupélec.

CentraleSupélec - Université Paris-Saclay *Paris, France*
BS and MS of Science and Engineering - French Engineering "Grande Ecole" *2021 – 2025*

- Applied Mathematics

LEADERSHIP

President of the Beta Sigma Club - Paris *2023 – 2024*
European Quant Finance Student Club

- Led a 10-member team to organize lectures with distinguished quants and workshops with top-tier market makers.

President of the Mountain Bike Club - CentraleSupélec *2022 – 2023*

SKILLS & ACTIVITIES

- **Languages**: English (Fluent), French (Native), Spanish (Native)
- **Programming**: *Daily:* Python. *Occasionally:* Matlab, R.
- **Activities**: Road Cycling & Mountain Bike (7 years - Regional level), Soccer (7 years - Top regional championship and European tournaments)

PUBLICATIONS

Pre-prints:

- P. Bousseyroux, T. Espana, M. Smerlak. *Another Marčenko-Pastur for Kendall's Tau*. arXiv preprint, 2025
- T. Espana, V. Le Coz, M. Smerlak. *Kendall Correlation Coefficients for Portfolio Optimization*. arXiv preprint, 2024

CONFERENCES

- *SIAM Conference on Financial Mathematics and Engineering*, Miami, July 2025.
- Poster Presentation. *18th Financial Risks International Forum*, Paris, March 2025.
- Poster Presentation. *Brunel-Bielefeld Workshop on Random Matrix Theory and Applications*, London, December 2024.
- Poster Presentation. *Random Tensors and Related Topics*, Paris, October 2024.