Pedro Sotomayor

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Education

Universidad de Chile 2018 – 2026
Engineering (B.Sc.) and Applied Economics (M.Sc.) Santiago, Chile

CentraleSupélec, Université Paris-Saclay 2020 – 2022
Engineering degree - Diplôme d'Ingénieur (M.Sc.) - Dual-Degree program with U. de Chile Gif-sur-Yvette, France

Research and Teaching Experience

Stanford University (GSB) Jul. 2025 – Present
Research Fellow (Pre-Doc) at the Stanford Graduate School of Business

- Faculty Mentor: Professor Claudia Allende Santa Cruz.

Universidad de Chile (MIPP) Aug. 2024 – Present
Research Assistant Santiago, Chile.

- Research Assistant to Professor Juan Escobar (Mechanism Design, Game Theory).
- Research Assistant to Professor Alejandro Corvalán (Political Economy).
- Research Assistant to Professor Marcela Valenzuela (Financial Economics).

Universidad de Chile Aug. 2023 – Jul. 2026
Teaching Assistant Santiago, Chile.

- Graduate Microeconomics (Spring 25/26, Spring 24/25), Assistant of Professor Juan Escobar.
- Graduate Econometrics (Spring 24/25), Assistant of Professor Alejandro Corvalán.
- Graduate Macroeconomics (Fall 24/25, Spring 23/24), Assistant of Professor J. Ledezma and Professor C. Lizama.
- Economics for MBA students (Spring 24/25), Assistant of Professor Juan Escobar.
- Game Theory (Fall 24/25), Assistant of Professor Juan Escobar.
- Macroeconomics (Fall 23/24), Assistant of Professor Raphael Bergoeing.
- Economics (Fall 23/24), Assistant of Professor Juan Escobar.

MICS LAB, Université Paris-Saclay Oct. 2020 – Jul. 2022
Research Project on Microstructure of Financial Markets Paris, France.

Work in Progress

Resource allocation with privately known externalities Mechanism Design
With Juan F. Escobar

- Optimal resource allocation (e.g., GPU clusters, vaccines) when both private benefits and social externalities are agents' private information. We characterize the welfare-maximizing mechanism and show that a simple price system—acting as a generalized Pigouvian subsidy—is optimal. The optimal design necessarily entails a participation distortion: agents with low social value access the resource ("Welfare Opportunists").

A Regime Macro-Based Asset Allocation with an Interpretable ML Model Macroeconomics and Market Finance
With Thomas Raffinot

- Interpretable ML for economic regime detection applied to macro asset allocation; regime-timed strategies significantly outperform buy-and-hold.

Work Experience

BNP Paribas AM (AXA-IM) Oct. 2024 – Mar. 2025
Quantitative Research Intern at the Quantitative Investment Signals Team Paris, France.

- Worked on Macro Regime Detection with Interpretable ML Algorithms.

Central Bank of Chile Dec. 2023 – Jun. 2024
Economist Intern at the International Analysis Unit of the Monetary Policy Division Santiago, Chile.

- Worked on the development of a Financial Markets Indicator using NLP.

BNP Paribas AM (AXA-IM) Mar. 2023 – Aug. 2023
Quantitative Research Intern at the Electronic Trading and Data Team Paris, France.

- Worked on a Supervised Similarity Learning Algorithm for Corporate Bonds.

U20 World Rugby Trophy Player Sep. 2017
U20 Chilean Rugby Team Uruguay

- Played for the Chilean team in the U20 World Rugby Trophy. We finished in fifth place after beating Fiji.

Honors and Awards

- ANID Grant (Chilean Ministry of Science) for M.Sc. Studies at Universidad de Chile, 2024-2025
- Academic Excellence Scholarship for M.Sc. Studies at CEA-DII-Universidad de Chile, 2024.
- Outstanding Student Award in Engineering and Science core curriculum, 2019.
- Golden Medal at National Mathematics Olympiad, 2010.

Language and Computational Skills

Programming: Python, R, SQL, Julia, Matlab.

Tools: Bloomberg, LaTeX, Office (Excel, PowerPoint).

Languages: **French** (Full Professional Working Proficiency), **English** (Full Professional Working Proficiency), **Spanish** (Mother Tongue).

Relevant Coursework:

Econ: Micro and Macro Economics, Econometrics, Mechanism Design, Financial Engineering, Corporate Finance Theory.

Math: Topology and Real Analysis, Measure Theory and Probability, Advanced Statistics, Optimization, Partial Differential Equations.

CS: Algorithms and Complexity, Data Science, Data Analysis and Causal Inference, Computational Game Theory.