Andres Guzman-Cordero

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RESEARCH INTERESTS

I study the intersection of economics, mathematics and computer science. My interests are statistical methods for time-series forecasting with emphasis in causal inference, and its connections with non-parametric methods and predictive algorithms.

EDUCATION

MPhil in Econometrics and Machine Learning Expected July 2025

Tinbergen Institute, Amsterdam, Netherlands GPA: 9/10

BSc in Econometrics and Economics *Honours* July 2023

Vrije Universiteit Amsterdam, Amsterdam, Netherlands GPA: 8.1/10

ACEDMIC EXPERIENCE

Tinbergen Institute | *Research Assistant* Oct 2023 - Present

- Working on a project for causal inference with multi-layered random forests with Prof. Francisco Blasques.
- Working on a project for non-parametric forecasting of time-varying parameters of environmental variables using neural networks with Prof. Andre Lucas

Vrije Universiteit Amsterdam | *Research Assistant* Apr 2022 - Jun 2023

- Developed a dynamic smooth-threshold SAR model to track particle movement in irregular lattices. Work implemented by the Noord-Holland Province government. Working papar "*Dynamic ST-SAR Model with Anisotropic Effects for Pollution Tracking*" with Prof. Andre Lucas.
- Developed a dynamic spatial econometric model to analyze the hidden effect of municipality merging in distance decay. Supervised by Prof. Henri de Groot.
- Research on Applied Spatial General Equilibrium Models. Focus on the optimization and calibration of the model. Redeveloped the implementation in Python. Supervised by Prof. Henri de Groot.

HONORS & ACCOLADES

Tinbergen Institute | *MPhil Full Scholarship* Sep 2023

- Awarded full scholarship for the two year research MPhil at the Tinbergen Insitute.

FSA Data Science Competition | *2023 Winner* Jun 2023

- Won the 2023 Data Science Competition organised by the FSA, BCG, Optiver, Metyis, Van Lanschot Kempen and PwC.

INDUSTRIAL EXPERIENCE

Model Developer | *ING* Sep 2022 - Nov 2023

- Developed and implemented a statistical arbitrage model in the European credit markets. Back-tested the strategy with 5% outperformance of the market. Full implementation in Python.
- Development, implementation and improvement of quantitative models that help the bank make decisions, manage risk, and improve operational efficiency. Worked on models for CSRBB, IRRBB, derivative pricing and portfolio replication. Work on Python, C++ and OCaml.

Machine Learning Research Intern | *Bit* Jun 2022 - Jun 2023

- Designed and prototyped advanced yet feasible systems. In my projects, I worked with deep neural networks, NLP and speech recognition.
- Liaison between engineers, researchers and clients. Managed a project to design an autonomous system for a large logistics company.

OTHER

Languages |

- Spanish (*Native*), English (*C2*), Dutch (*B1*), German (*B1*).
- C++, Java, Python, Julia, Haskell and OCaml.