João Jerónimo

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Summary

PhD Economist specializing in causal inference and market design. 4+ years of experience processing large-scale administrative datasets (55M+ rows) to build structural wage models. Expert in observational causal inference, network analysis, and experimentation. Passionate about using data to solve complex optimization problems.

Work experience

Doctoral Researcher — *Edinburgh, UK*
Heriot-Watt University — *Sep 2021 – Nov 2025*

- **Algorithm Development**: Deployed a network-based clustering algorithm to map worker mobility between firms, identifying "connected sets" essential for valid statistical inference.
- **Graph-Based Feature Engineering**: Computed complex network diagnostics (clustering coefficients, path lengths, centrality) on a 50M-edge mobility graph to quantify market fragmentation and improve model identification in sparse data regions.
- **Large-Scale Data Processing**: Managed the end-to-end data lifecycle for a 50M+ dataset (R to Python), ensuring data integrity for downstream machine learning models.
- **Predictive Modeling**: Built and deployed a structural simulation in Python to forecast user (worker) behavior under changing incentive structures (wage floors).
- **Translated technical research for diverse audiences**: Taught advanced macroeconomics courses to undergraduate students, breaking down technical concepts for non-specialists; presented research at multiple economics conferences.

Research fellow — *Lisbon, Portugal*
University of Lisbon — *Jan 2019 – Jun 2021*

- Pre-processing and streamlining data across multiple formats (.csv, .json and HTML)
- Automation of data extraction processes through web scraping using Python, resulting in significant reductions in weekly working hours
- Writing VBA scripts for simultaneous operations in large matrices, significantly speeding up data operations required for pre-processing

Skills

Causal inference: Synthetic Control, Diff-in-Diff, IV, A/B Testing.

Methods: Linear regression, forecasting, time series, Bayesian econometrics.

Coding: R (Advanced), Python (Advanced), Stata, SQL, Git/Github (version control).

Technical projects

Macroeconomic Forecasting Engine — *github.io.com/sfc*

- Built a machine learning pipeline to enhance forecasting accuracy of a UK government forecasting model.
- Tools Used: Python

Neural Network Inflation Predictor — *github.com/ml*

- Benchmarked Random Forest vs. Neural Net performance to predict quarterly Consumer Price Index.
- Tools Used: Python

Inflation forecasting with Bayesian Econometrics — *github.com/ml*

- Partially replicated work of Chan et al (2013) and estimated unobserved components moving average time series models, with and without stochastic volatility, to produce estimates of posterior inflation means

- Tools Used: MATLAB

IV Bias Correction Algorithm *github.com/macro*

- Implemented a bias-correction estimator in R/Stata to solve endogeneity issues in time-series data. Based on Wang and Bellemare (2019).
- Tools Used: R, Stata

Education

Heriot-Watt University *Oct 2021 – Expected Feb 2026*

PhD in Economics (thesis submitted Nov 2025; awaiting defense)

- Award: UK Research and Innovation (UKRI) Scholarship (≈£60k).

University of Minho *Sept 2017 – Jan 2020*

MSc in Economics (summa cum laude)

- Honors: National Award for Academic Merit (Top ranked students in Portugal, 2019); ”Best Student” scholarships for highest GPA in 2018.

University of Minho *Sept 2014 – Jun 2017*

BA in International Relations (magna cum laude)

- Honors: ”Best Student” scholarships for highest GPA in 2016.

Journal publications

Interactions between financial constraints and economic growth Jul 2023

J. Jerónimo, A. Azevedo, P.C. Neves, M. Thompson

The North American Journal of Economics and Finance, vol. 67

10.1016/j.najef.2023.101943