Nicolas Horacio Tanzi

Economist & Data Scientist
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Professional Summary

Economist and data scientist who helps companies answer three questions with data: did it work, what comes next, and is it worth it. 7+ years in analytics and data science, 4+ of them in banking and risk, with a Master's in Economics (UdeSA) and an MS in Data Science (UT Austin). Specialized in causal inference and experiments, time series forecasting, and economic evaluation based on data and models: sets the build priorities of a causal evaluation engine that measures sales impact for 1.5M+ customers every two weeks, and validated 50+ models for 10+ banks, including some of the largest in the world. Takes that work to production with advanced Python and SQL, Databricks, and Spark, and builds AI agent workflows with Claude Code. Translates business questions into analytical solutions, presents results to C-level executives, and mentors junior data scientists.

Experience

Senior Data Scientist | Mutt Data | November 2025 - Present

- Translate business requirements from commercial and growth stakeholders at a leading Latin American beverage bottler into data science solutions, with evaluations impacting operations across Latin America.
- Set the build priorities of a causal evaluation engine for the client's commercial initiatives with a product mindset, ranking features by business value and technical complexity. The engine measures sales impact every two weeks for 1.5M+ customers (700k in Mexico and 800k in Brazil), with Matrix Completion for Causal Panels as the main model and Causal Forest as the benchmark.
- Estimate the impact of cross-company sales initiatives with causal forests, LightGBM-based causal models, synthetic control, difference-in-differences, and instrumental variables; presented results to the lead Growth Manager, which were escalated to the CEO.
- Design and analyze experiments to boost sales, customer digitalization, and satisfaction: define treatment and control groups, sample sizes, and sampling and randomization strategies, analyze satisfaction surveys, and present results to business stakeholders.
- Design demand elasticity models combining microeconomics, causal inference, and large-scale transactional data.
- Develop large-scale data pipelines and models in Databricks with PySpark, Spark SQL, and advanced SQL, using Databricks Connect for local development, shared Python libraries deployed to the platform, MLOps practices, Git, and Azure DevOps.
- Designed an agentic development workflow on Claude Code: an orchestrator agent delegates work to parallel subagents (one per Git worktree or Jira ticket) under human approval gates, supported by custom skills for Databricks Connect, internal libraries, Jira, and Azure DevOps.
- Mentor two junior data scientists, interview candidates, and manage a high volume of stakeholder requests by estimating effort and prioritizing deliverables.

Senior Data Scientist | Banco Santander - Fixed Term Contract | March 2025 - November 2025

- Built time series forecasting models for banking risk with SARIMA and cointegration with error correction mechanisms (ECM), along with economic cycle indicators and structural break diagnostics.
- Developed probability of default (PD) models with XGBoost and loss given default (LGD) models, using logistic regression, LASSO, and Ridge regression.
- Used Python, SQL, Spark, and AWS to prepare data, estimate models, analyze performance, and support model documentation.

Model Validator - Quant Analyst | Kevin D. Oden & Associates | April 2022 - March 2025

- Validated 50+ predictive and decision models for 10+ banks, including some of the largest in the world, covering probability of default, fraud detection, securitization, hedging, and time series forecasting.
- Performed backtesting, stress testing, sensitivity analysis, benchmarking, and challenger model development to assess model performance and risk.
- Developed and enhanced predictive banking models, designed monitoring frameworks, drafted model documentation, and advised on annual model review strategies.
- Presented validation findings and recommendations to senior executives, including the CFO of a major U.S. bank.
- Led and mentored two junior analysts, reviewing their technical work and guiding validation deliverables.

Financial Model Developer | Beex | January 2018 - February 2019

- Developed a value at risk (VaR) model in SAS for a major Argentine bank, modeling cash flows for assets and liabilities and discounting them under configurable interest-rate curves, scenarios, and assumptions set through a user interface.

Statistical Assistant | FIEL - Macroeconomic Consultancy | October 2016 - December 2017

- Built predictive time series models supporting the FIEL Macroeconomic Forecast, a quarterly macroeconomic and sector projection report.

University Lecturer and Teaching Assistant | UdeSA, UBA, UTDT, UCA, UCEMA, USAL, and Universidad de Belgrano | May 2020 - December 2022

- Taught statistics, econometrics, microeconomics, and macroeconomics in undergraduate and master's programs, including Dynamic Macroeconomics in the UdeSA Master's program and Econometrics at Universidad de Belgrano.
- Previously tutored college students in economics and statistics at iMath (June 2018 - February 2020).

Projects

Agentic Second Brain - Multi-Agent Productivity System | Personal project | November 2025 - Present

- Built an LLM-based multi-agent system with Claude Code and Codex on top of an Obsidian knowledge base: an orchestrator coordinates specialized subagents through self-contained prompts, explicit permissions, human-in-the-loop approval gates, and persistent worklogs.
- Developed 10+ custom agent skills, several with evaluation sets to test and improve their behavior, and integrated external tools through MCP servers and APIs (Jira, Gmail, Google Calendar, Azure DevOps, speech-to-text) with Python scripts, agent hooks, and unit tests.

Education

Master of Science in Data Science | The University of Texas at Austin | 2024 - March 2026
Coursework: Machine Learning, Deep Learning I and II, Natural Language Processing, Advanced Probabilistic Methods, Probability & Statistics, Regressions, Data Structures & Algorithms, Data Visualization.
Diploma verifiable at UT Austin CeDiploma (code 26VZ-2UJM-H7IZ).

Master's in Economics | Universidad de San Andres (UdeSA) | 2019
Thesis "Inflation and Risk in Household Investment Decisions" won First Prize (shared) in the Young Professionals category of the Central Bank of Argentina's 2024 Raúl Prebisch Award. Research Assistant for Damian Pierri. Average grade: 8/10.

Undergraduate Degree in Economics | Universidad de Buenos Aires (UBA) | 2013 - 2018
Average grade: 8/10. Teaching Assistant for Microeconomic Theory I, Microeconomic Theory II, and Statistics II.

Certifications

Claude Certified Architect - Professional (CCA-P) | Anthropic | Expected December 2026

Skills

Causal inference and experiments: Matrix Completion for Causal Panels, causal forests, difference-in-differences, synthetic control, instrumental variables, experimental design (treatment and control groups, sample size, randomization), hypothesis testing, descriptive and inferential statistics

Time series and forecasting: SARIMA, cointegration, error correction models, structural breaks, economic cycle indicators

Economic evaluation and risk: Demand elasticity, microeconomics, econometrics, credit risk (PD, LGD), value at risk, fraud detection, model validation, backtesting, stress testing, sensitivity analysis

Machine learning: Predictive modeling, LightGBM, XGBoost, logistic regression, LASSO, Ridge regression, challenger models, model monitoring

Code and production: Python (advanced), SQL (advanced), Databricks (PySpark, Spark SQL, Databricks Connect), Spark, AWS SageMaker, MLOps, Git, Azure DevOps, Jira

AI agents: Claude Code, Codex, multi-agent orchestration, subagents, agent skills, Model Context Protocol (MCP), prompt engineering, human-in-the-loop design

Other tools: pandas, NumPy, SciPy, scikit-learn, statsmodels, PyTorch, Matplotlib, Plotly, R (tidyverse, tidymodels, ggplot2), SAS, Stata, Julia, MATLAB, VBA, LaTeX, Excel (expert)

Languages: Spanish (native), English (fluent)