

Juan Sebastián Casallas

Financial Data Analyst — Modeling & Automation

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Education

Pontificia Universidad Javeriana
Industrial Engineering

Bogotá, Colombia
Jan 2017 – Jun 2022

Degree thesis: Design of a demand forecasting model based on machine learning and a multi-objective model for production planning in a bakery industry

Work experience

Banco de Bogotá
Financial Analyst II

Bogotá, Colombia
Mar 2024 – Present

- Automated a financial reporting pipeline with SQL and PL/SQL, cutting generation time from 6 hours to 15 minutes.
- Rebuilt budget migration workflows with SQL and R, simplifying commercial management and reducing operational friction across teams.
- Developed a repricing model for the commercial loan portfolio with SQL and R, covering ~95% of the portfolio with a maximum deviation of 1 basis point.
- Built a macroeconomic variables observatory that consolidates the policy rate, IBR, DTF, CPI and UVR daily and projects them to 2030, feeding the repricing model.
- Built an optimization model in R that estimates the usury rate (TIBC) over millions of records, within just 2 bp of the SFC.
- Automated a data pipeline in R, cutting storage requirements by more than half while expanding historical coverage by 13 years.

Banco de Bogotá
Pricing Analyst III

Bogotá, Colombia
Sep 2022 – Mar 2024

- Automated the extraction of banking tariffs from the Superfinanciera with Python web scraping, creating the sector's first structured historical benchmark.
- Developed a projection model for commissionable services in Excel and VBA, supporting pricing strategy with forecasts aligned to business goals.
- Conducted market research and competitive analysis across 5 banking entities, identifying pricing trends and optimization opportunities in the sector.
- Collaborated with multidisciplinary teams to design and monitor pricing strategies, ensuring profitability and market competitiveness.

Numeris Consultoría Actuarial y Financiera
Data Analyst

Bogotá, Colombia
Jul 2022 – Sep 2022

- Cleaned and processed actuarial and financial insurance data in R, ensuring quality and consistency for decisions based on reliable information.

Recognitions

Strategy & Profitability Division
Most Innovative

Banco de Bogotá
Aug 2023

- Awarded first place in an internal innovation contest organized by the Strategy and Profitability Division for developing an automated Python tool that extracted and processed historical tariff data from the Superfinanciera. It gave the division its first structured historical benchmark of banking system tariffs.

Projects with a live demo

Usury Rate Forecasting Model (TIBC)

- 2 bp average error vs. the official SFC rate
- A regulatory simulation model that anticipates Colombia's maximum lending rate week by week, enabling the finance team to forecast revenue impact before the official SFC publication.
- View demo: sebastiancasallas.scweb.workers.dev/demos/tasa-usura

Macroeconomic Variables Observatory

- 7 daily series projected to 2030; the UVR matches the official figure
- Consolidates Colombia's policy rate, IBR, DTF, inflation and UVR day by day and projects them to 2030 with Banco de Bogotá's economic research scenario.
- View demo: sebastiancasallas.scweb.workers.dev/demos/variables-macro

Commercial Portfolio Repricing Model

- ~95% of the commercial portfolio, within 1 bp of the system's daily rate
- A rate-sensitivity model that estimates the daily and monthly impact of macroeconomic variable changes on the commercial lending portfolio, enabling structured weekly revenue planning for the largest segment of the bank's commercial loan book.
- View demo: sebastiancasallas.scweb.workers.dev/demos/simulador-reprecio

Core skills

Main stack: Python, SQL, R

Data & analytics: pandas, NumPy, scikit-learn, DuckDB, Parquet, PL/SQL

Modeling: Financial modeling, Pricing, Forecasting, Optimization, Regulatory analytics, Machine learning

BI & automation: Power BI, Power Automate, Excel & VBA, ETL, Web scraping, Git

AI-assisted development: Claude, Gemini, LLM automation

Languages: Spanish (native), English (B1)

Certifications: Machine Learning Specialization (DeepLearning.AI & Stanford Online); Data Analysis using R (Google); Effective Problem Solving (University of California, Irvine); Data Storytelling Practices (Crehana)