Matias Villa

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EDUCATION

UCLA ANDERSON SCHOOL OF MANAGEMENT — Los Angeles, CA
Master of Financial Engineering — Expected Dec 2027

- *Relevant Courses:* Stochastic Calculus, Econometrics, Investments, Option Pricing, Numerical Methods, Fixed Income Derivatives, Credit Markets, Portfolio Theory & Risk Management, Quantitative Trading Strategies, Machine Learning

UNIVERSITY OF CHILE — Santiago, Chile
M.Sc. Data Science — GPA: 3.90/4.00 — 2025

- *Relevant Courses:* Probability & Statistics in Data Analysis, Deep Learning, Natural Language Processing, Computational Intelligence, Data Mining, Scientific Programming

UNIVERSITY OF CHILE — Santiago, Chile
B.Sc. Industrial Engineering — GPA: 3.90/4.00 — 2023

- *Relevant Courses:* Linear Algebra, Multivariable Calculus, Ordinary Differential Equations, Probability & Statistics, Modeling & Optimization, Decisions Under Uncertainty, Game Theory, Finance

SKILLS

- *Technical Skills:* Python (NumPy, Pandas, SciPy, statsmodels, scikit-learn, PyTorch), C++, R, SQL, Git, Bloomberg (Terminal, Data License), Snowflake, BigQuery, Addepar
- *Quantitative Skills:* Stochastic Calculus, Time-Series Econometrics, Monte Carlo Simulation, Derivatives Pricing, Portfolio Optimization, Factor Models, Backtesting, Machine Learning

EXPERIENCE

BUENAVISTA CAPITAL — Santiago, Chile
Quantitative Analyst — August 2024 – July 2026

- Built a Python portfolio analytics platform integrating optimization and risk models (mean-variance/CVaR, historical/hypothetical stress testing) for 20 multi-currency portfolios at a ~$800M AUM multi-family office, reducing daily reporting time by 80%
- Developed pricing tools for options and structured notes (Black-Scholes, Monte Carlo), decomposing payoffs into fixed income and derivative components to evaluate issuer pricing
- Developed a screening tool ranking 1,000+ mutual funds and ETFs across global equity and fixed income categories on risk-adjusted performance and return consistency to support manager selection and allocation
- Conducted an event study of 100-day forward U.S. equity returns after VIX above 50 episodes, accounting for conditional heteroskedasticity; findings supported a 5% tactical overweight after the April 2025 selloff

METLIFE — Santiago, Chile
Strategy Analyst — September 2023 – August 2024

- Built a data-collection pipeline across five insurance segments, increasing quarterly market coverage from 20% to 100% and enabling competitive and cross-segment analysis
- Evaluated pension reforms, regulatory developments, and international expansion opportunities to assess business impact and market attractiveness

BR CAPITAL — Santiago, Chile
Quantitative Research Intern — May 2023 – September 2023

- Automated time-weighted return calculations, portfolio performance attribution, and monthly reporting workflows using Addepar and Bloomberg data, improving return-measurement accuracy and reducing manual processing time by 90%

PROJECTS

Macro Regime-Based Tactical Asset Allocation System | GitHub — 2026 – Present

- Built a Python system detecting macro regimes via PCA, K-means clustering, and Markov transition matrices
- Mapped regime forecasts (Black-Litterman, ridge) to fixed income and equity portfolios with look-ahead-free walk-forward backtests

Conditional Diffusion Models for Financial Returns | GitHub — 2025 – Present

- Developing a score-based diffusion framework for synthetic return paths conditioned on cumulative return and realized volatility, focusing on tail behavior, dependence dynamics, and martingale consistency

Master's Thesis – University of Chile & National Cancer Institute | Online — 2024 – 2025

- Designed deep convolutional architectures for pathology-image classification, achieving 98% accuracy on multi-class datasets through cross-validation, hyperparameter optimization, and end-to-end deployment