Gregory Barco

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EDUCATION

BROOKLYN COLLEGE, CUNY Brooklyn, NY
B.Sc Applied Mathematics, Minor in Financial & Actuarial Mathematics Dec 2025
Relevant Coursework:
Derivatives Pricing, Portfolio Management, Stochastic Calculus & Differential Equations, Fixed Income, Probability Theory Statistics, Risk, Numerical Analysis, Real Analysis, Linear Algebra, Machine Learning, Modeling: Markov Chain, Monte Carlo
Grants and Awards:
Leonard Tow Foundation Fellowship Grant for Quantitative Research in Derivative Pricing and Portfolio Optimization (2025)
HelloHive Inaugural Advisory Board Member for top participation in Summer Finance & Asset Management Series (2024)
Geraldine Williams Memorial Scholarship for outstanding contribution to the Brooklyn College community (2023)

EXPERIENCE

U.S. HOUSE OF REPRESENTATIVES Washington, DC
Budget and Appropriations Intern, D-NY-13 Jan–Apr 2024

- Analyzed the Fiscal Year '24 \$1.27T+ federal budget across 12+ agencies; developed and implemented analytical methods to proactively identify budget variances, optimizing a \$126.6M allocation for 15 New York-based infrastructure projects
- Directed high-level engagement with CEOs and policy leaders during federal appropriations, synthesizing complex data into executive memos that guided multi-million-dollar financial investment decisions in New York City
- Analyzed the Basel III framework and synthesized reports for leadership, informing risk and capital management policy
- Conducted sentiment analysis on a four-year constituent dataset, developing robust predictive statistical models (Python, Excel) that contributed to successful policy amendments

BROOKLYN COLLEGE, CUNY Brooklyn, NY
Central Depository Financial Assistant - Division of Student Affairs Mar 2023–Present

- Analyzed procurement data using statistical modeling and budget allocation forecasting to support \$21M CUNY-PepsiCo partnership, reducing costs by 38% and improving efficiency by 23%
- Developed university website and master database streamlining financial documentation dissemination, submission, and audit
- Created and manage Financial Training Modules for 160+ student-organization treasurers using D2L Brightspace
- Supervise accounting and process payments for student organizations to 40+ diverse vendors through CUNY Buy
- Reconcile \$100K+ annual procurement expenditures utilizing Excel (Pivot Tables & VLOOKUP) to support Financial Audit

PROJECTS

BROOKLYN COLLEGE, CUNY - Leonard Tow Research Fellowship Brooklyn, NY
Option Pricing on Markov-Switching Financial Market Models (Python—Fortran) Aug 2025–Present

- Developed stochastic asset pricing models using Monte Carlo methods and Stochastic Calculus in Fortran and Python
- Calibrated asset model parameters using real-world data across various equity markets (Technology, Commodities, etc.)
- Calculated risk-neutral exotic derivative pricing (Call, Put, Asian) for portfolio management and to develop Greek-hedging strategies on a Markov-Switching Black-Scholes market
- Co-author original research, working towards publication with faculty advisor and deliver presentation to university

Fixed Income Treasury Yield Curve Fitting Model (Python) Jul 2025

- Forecasted 30-year risk-neutral interest rate curve (97% accuracy) by calibrating Nelson-Siegel-Svensson parameters with SciPy optimization using 14 benchmark rates
- Identified 6 mispriced bonds out of 1,000 actively traded bonds (deviating by $\geq$ 15 basis points from fair value); created a data import pipeline using Python to source data from the Bloomberg Terminal

SKILLS

Programming: Python (NumPy, SciPy, Scikit-learn), MATLAB, Maple, R, SQL, Fortran, Java, Excel
Software: Bloomberg Terminal, RStudio, Jupyter Notebook, Power BI, Tableau, Git
Languages: English (Native), Russian (Working Proficiency)

CERTIFICATIONS

Bloomberg Market Concepts (BMC), *Bloomberg L.P.* – Certificate Link
Supervised Machine Learning: Regression and Classification, *Coursera/Stanford University* – Certificate Link