Beatrice K. Lee

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY — **Atlanta, GA**
Master of Science in Quantitative and Computational Finance — *Expected Graduation: May 2026*
- GPA: 4.00/4.00
- Relevant Coursework: Derivative & Fixed Income Securities, Numerical Methods in Finance, Statistical Learning

GEORGIA INSTITUTE OF TECHNOLOGY — **Atlanta, GA**
Bachelor of Science in Industrial and Systems Engineering — *Graduated: December 2024*
- GPA: 3.86/4.00 – Highest Honors
- Concentration in Economic and Financial Systems
- Relevant Coursework: Engineering Optimization, Simulation Design, Regression & Forecasting, Financial Data Analysis, Data & Visual Analytics, Stochastic Systems

EXPERIENCE

DIMENSIONAL FUND ADVISORS — **Austin, TX**
Strategy/Investment Research Intern — *June 2025 – August 2025*
- Execute and analyze simulations for research on asset pricing models and economics studies.
- Conduct empirical research related to Dimensional's investment strategies and a variety of investment topics.
- Perform analysis on portfolios and prospective strategies.

SAMSUNG AUSTIN SEMICONDUCTOR — **Austin, TX**
ISyE Senior Design – Finalist in Competition — *August 2024 – December 2024*
- Produced a Python simulation of the semiconductor etching process utilizing understanding of stochastic processes.
- Designed optimization policies, including a mixed-integer program, to provide 29% cost savings at etch.
- Conducted financial analysis to find the true value of the project and presented findings to VPs and ISyE Faculty.

POREX — **Atlanta, GA**
Supply Chain Intern — *January 2023 – May 2023*
- Engineered a dynamic map in Power BI to visualize and track freight movement across over 100,000 freight lanes.
- Developed a modular bill of materials tool in Power BI, utilizing DAX for advanced querying of Oracle data to present detailed supply chain information for over 10,000 products, including raw material breakdowns.
- Built a materials sourcing matrix that allows engineers to find sources for over 1,000 materials using VBA in Excel.

NCR — **Atlanta, GA**
Technical Consulting Intern — *May 2022 – August 2022*
- Created tailored solutions for 6 clients through in-depth analysis of client needs and NCR's service capabilities.
- Constructed a predictive customer lifetime value model from 2 years of data using Python and pandas data frames.

PROJECTS

Multi-Model Portfolio Optimization and Risk Management
- Optimized a multi-asset portfolio for maximum Sharpe ratio under GBM, Merton, CEV, and Heston models.
- Simulated returns with stochastic rates (Ho-Lee, CIR, Vasicek), adjusting portfolio weights across scenarios.
- Applied options strategies to enhance returns and evaluated model fit for future market conditions.

Using Machine Learning to Detect Fraudulent Transactions
- Processed data by identifying optimal categorical encoding methods and applying necessary transformations.
- Tested KNN, random forest, support vector machine, and logistic regression methods to detect fraud cases.
- Used XGBoost method in a final effective model, refining it through rigorous grid search and cross validation.

Campaign Financial Contribution Data Machine Learning & Visualization
- Applied a Hierarchical Clustering Algorithm in Python to understand patterns in political financial data.
- Invented a novel interactive visualization tool to display our cluster results using JavaScript and HTML.

SKILLS

Programming: Python, SQL, R, VBA, JavaScript, HTML & CSS, Java, MATLAB
Technical: Excel, PowerBi, Git, Tableau, Simio, Gourbi Optimizer, Cloud Computing
Affiliations: Undergraduate Teaching Assistant, Phi Mu Sisterhood Development Chairwoman, Women in QCF
Interests: Whitewater rafting head river guide at Nantahala Outdoor Center