

# Lily Campbell

## Portfolio Website

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## EXPERIENCE

May 2022 –

Present

### **Quantitative Analyst II - Analytics, Modeling & Insights, Bank of America**

- Apply advanced data science and machine learning techniques to find insights from big data - methods used include causal analysis, clustering, random forests, and network analysis
- Conduct exploratory and statistical data analysis across distributed and relational data sources using Spark, SQL, SAS, and Pandas
- Lead predictive modeling projects, such as modeling long term client profitability and behavior, from model design through production hand-off
- Develop client segmentation schemas with various clustering techniques to inform marketing strategy
- Utilize network analysis techniques to graph customer complaint cooccurrences to identify pain points in the customer experience
- Present actionable findings from data analysis to both technical and non-technical audiences

July, 2021 –

May, 2022

### **Automation Analyst, Bank of America**

- Developed SQL solutions enabling migration of manual Excel-based work into automated corporate auditing tools
- Mined fraudulent user activity from banking transaction data enabling mitigation of financial loss
- Performed rigorous testing of business control code to ensure efficacy and performance under changing regulatory requirements

October, 2020 –

May, 2021

### **Research Assistant, The Fletcher School of Law and Diplomacy**

- Supported research initiatives by testing analysis methodology, primarily optimization models and linear regression techniques
- Reviewed data analysis in academic papers and documented the efficacy of papers' statistical methods

September, 2019 – August, 2020

### **Program Analyst, Tufts Office of Strategy and Program Development**

- Analyzed potential academic programs and operational development for Tufts University to determine financial viability
- Conducted market research to develop strategic recommendations using data mining techniques

## EDUCATION

### **M.S. Data Science - University of Chicago, August 2025**

*Relevant Coursework:* Advanced Machine Learning & AI, Generative AI, Computer Vision, Big Data & Cloud Computing, Bayesian Statistics, Linear & Non-Linear Modeling

#### *Key Projects:*

- Developed an AI meeting preparation app with agentic AI techniques – runner-up for UChicago's Best Data Science Capstone
- Created and deployed a RAG based chatbot for the UChicago admissions website to assist prospective students with program specific questions
- Collaborated with Argonne National Laboratories to improve bird strike warning systems by developing a ViT solution, which improved performance over past CNN-based solutions
- Instruction-tuned LLMs with PEFT to improve the quality of responses to complex queries
- Programmed and trained Encoder-Decoder and Decoder-Only transformers
- Frequently used tools include PyTorch, TensorFlow, scikit-learn, LangGraph, and PySpark

### **B.S. Mathematics and Quantitative Economics - Tufts University, May 2021**

*Magna cum laude, Phi Beta Kappa National Honors Society*

*Relevant Coursework:* Real Analysis, Numerical Linear Algebra, Mathematical Modeling & Computation, Quantitative Econometrics