

EDUCATION

- **University of Chicago** Chicago, IL
Master of Science in Financial Mathematics; Financial Data Science Sep 2021 – Dec 2022
- **SP Jain School of Global Management** Sydney, Australia
Bachelor of Science in Data Science; Machine Learning Sep 2018 – Jun 2021

SKILLS

- **Programming:** Python, R, SQL, \LaTeX **Data Science:** NumPy, Pandas, Sci-kit Learn, SciPy, Statsmodels
Knowledge: Machine Learning, Predictive Modeling, Quantitative Research, Financial Data Science

RESEARCH

- **Harvard Business School** Boston, MA
Research Associate; Profs. Victoria Ivashina & Josh Lerner, Finance and Entrepreneurship Jan 2023 - Present
 - **Portfolio Optimization:** Developed Mean Variance and Black Litterman simulations in Python to estimate the Cost of Illiquidity on Expected Returns and Smoothing Parameter of Volatility of Alternative Assets by US Pensions Funds; made various statistical analyses for return attribution.
 - **Data Science Econometrics:** Constructed a pipeline in Python to build a Big Dataset of all financial firms in the US; performed Causal Regression Analysis to investigate the presence of Killer Acquisitions.
- **Booth School of Business** Chicago, IL
Research Assistant; Prof. Dacheng Xiu, Econometrics and Statistics Jan 2022 - Jan 2023
 - **Zillow:** Developed supervised machine learning regression models: linear, regularized, and non-parametric to predict real estate pricing error; detailed systematic factors of data contributing to the space of pricing error.
 - **LendingClub:** Developed supervised machine learning classification models: linear, regularized, and non-parametric to predict default rate; created Assignments and Lecture Content from material studied in the project, with expositions and explanations of various machine learning theory topics for MBA students.
- **ISI, Kolkata:** RA to Prof. Tanujit Chakraborty; Readings in Ensemble & Hybridized Machine Learning
- **SP Jain, Sydney:** RA to Dr. Deb Roy; Readings in AI for Microgrid Management
- **Booth, Chicago:** TA to Profs. Dacheng Xiu and Jeffrey Russell; Decoding FinTech, Financial Econometrics

WORK

- **Cboe Global Markets** Chicago, IL
Derivatives Strategy Analyst Intern; Cboe Labs Jun 2022 – Dec 2022
 - **VIX and iBoxx Indices:** Numerically developed the series level filtering algorithm for VIX smoothing; automated the broad based index test for the iBoxx index using a self designed SEC EDGAR API in Python
- **Pareto Frontier Capital** Chicago, IL
Quantitative Researcher Intern; Data Science Oct 2021 – Jan 2022
 - **PCA:** Led the data science team developing supervised and unsupervised machine learning models for cryptocurrency trading signals; created a framework using Principal Component Analysis to improve trading signals
- **Pipli.ai** Mumbai, India
Data Scientist Intern; Machine Learning Jun 2021 – Aug 2021
 - **Computer Vision and NLP:** Used OpenCV to parse images of receipts and invoices into text data; performed Named Entity Recognition on the corpus created using SpaCy
- **Adaptive Investment Solutions, Boston:** Quantitative Analyst Intern; Developed a tail risk hedging algorithm in NumPy and Pandas for the startup's flagship prototype
- **The Existology Foundation, Mumbai:** Co-founder; Built a student run mental health destigmatization and awareness non-profit to advise students, teachers, and parents on mental healthcare