Aryamaan (AJ) Jena

Email : ajena@hbs.edu
Website: http://ajsquestions.github.io
Linkedin: https://www.linkedin.com/in/aj-jena-13b738172/

Education

- **Harvard University** — Cambridge, MA
  Non-Degree Student; Reinforcement Learning, Computational Economics — *Sep 2023 – Present*
- **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*

Research Experience

- **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 (Decoding FinTech) and Jeffrey Russell (Financial Econometrics)

Professional Experience

- **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 algorihtm 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; peformed Named Entity Recognition on the corpus created using SpaCy
- **Adaptive Investment Solutions, Boston**: Quantitative Analyst and Software Engineer 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

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