Harshavardhan (Harsha) Bapat

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY   **Expected December 2022**
Master of Engineering in Financial Engineering   **GPA: 3.8/4.0**

Birla Institute of Technology and Science - Pilani, Hyderabad, India   **June 2020**
Master of Science (Hons.) in Economics   **First Class**
Bachelor of Engineering (Hons.) in Electrical & Electronics Engineering   **GPA: 8.04/10.00**

Selected Coursework: Derivatives, Macroeconomics, Applied Econometrics, Optimization, Object Oriented Programming, Learning with Big Messy Data, Monte Carlo Simulations, Python for Finance

SKILLS

Technical: Python, Excel, VBA, Financial Modeling
Certifications: CFA Level II Candidate

EXPERIENCE

J.P Morgan Chase & Co.   Mumbai, India
Equity Research Analyst, US Aerospace & Defense   **Apr. '20 – Jul. '21**
- Built fundamental valuation models in a team of 4 for 23 publicly traded companies to establish price targets based on industry analysis, SOTP analysis, and valuation metrics in order to identify investment opportunities.
- Produced equity research reports communicating investment opportunities and company specific views, and performed industry research on topical issues, including a deep dive into the business jet sub-sector amid the covid-19 pandemic.
- Built a comprehensive valuation model and wrote a report with analysis for initiation of coverage of 1 company.
- Automated the data collection and production of 2 monthly reports using Python and VBA, saving ~20 hours per month of processing time. Also assisted clients with bespoke modeling and data queries.

Credit Research Intern, US HY Strategy   **Jul. '19 – Apr. '20**
- Analyzed the US High Yield bonds and Leveraged Loans markets to contribute to research publications, including a framework to identify Fallen Angel & Rising Star candidates based on ratings outlooks and relative credit spreads.
- Developed a process to automate tracking of new bonds, loans, and CLO issuances from Capital IQ alerts.
- Automated 10+ internal research models and processes in Python and VBA, reducing turnaround time by ~8 hours/w.

PROJECTS

Oil Price Prediction using Machine Learning, *Cornell University*   **Sep. '21 – Dec. '21**
- Implemented an SVM algorithm with Hinge Loss and fit a Decision Tree model to predict the direction of movement of the 22-day MA of WTI crude futures prices from global economic data with 91% and 92% accuracy respectively.
- Employed linear regression and ensemble methods to predict daily crude futures prices. Selected optimal hyperparameters using time series cross validation on a rolling basis and performed PCA to address overfitting.
- Developed a modified ensemble method to identify which model fits best for each time point and employ the optimal model for target prediction in test data. Results indicated an RMSE 12% lower than forecasts from an ARIMA model.

Monetary Policy Transmission in India, *BITS-Pilani*   **Aug. '18 – Dec. '18**
- Implemented a fixed effects model to test the validity of balance sheet channel of policy transmission in Indian markets by observing the effect of net worth, liquidity, and monetary policy shocks on investment cashflow of companies.
- Constructed panel data of 7500 companies from 2005-2018 and concluded an insignificant impact of monetary policy changes on corporate investment decisions in contractionary and expansionary regimes.

PATENTS

Home Fragrance System   **Filing Date: Aug. 2017**
- Designed a remotely controllable, fragrance-dispensing system for living environments with provision to integrate multiple dispensers | *Application number: 201721028054 | Patent Office: India*

LEADERSHIP EXPERIENCE

Vice-Captain, *Men's Soccer Team, BITS-Pilani,* Hyderabad, India   **Apr. '17 to Feb. '18**
Treasurer, *Economics Association, BITS-Pilani,* Hyderabad, India   **Aug. '16 to May '17**