

## EDUCATION

Degree	Institute	Year	CPI/%
MS in Economics (BS-MS)	IIT Kanpur	2019 - 2020	9.5/10
BS in Economics (BS-MS)	IIT Kanpur	2015 - 2019	8.5*/10
Senior Secondary School Certificate	S.D. Vidya Mandir School, Panipat	2015	95.4%
Secondary School Certificate	S.D. Vidya Mandir School, Panipat	2013	10/10

\* Distinction

## MASTERS PROJECT

- **Corporate Prediction Markets: Designing an Information Aggregation Mechanism** Aug'19 - Jun'20  
*Dr. Bikramaditya Datta* *Presentation*
  - Designed Corporation Prediction for institutional setup & designed the same for IIT Kanpur by chiefly working on market microstructure, incentive structure and the software infrastructure required
  - Analyzed the convergence of prediction market prices to true probability in both probabilistic and non-probabilistic market setup, incorporated with the option of saving and provided metrics to decide the appropriate market design

## RELEVANT PROJECTS

- **TaaS Engagement with Topcoder** Oct 05, 2020-Oct 31, 2020  
*topcoder.com*
  - One of the two selected worldwide to work with **Topcoder** for one of the **Britain's biggest Telecom Multinational** to develop novel ML and Statistical models to forecast company's key variables with tight deadlines
  - Employed various **univariate graphical analysis** based methods to decipher the variable trajectory after Covid-19 using matplotlib and pandas profiling
  - Iteratively improvised the existing models and developed new models by employing **Statistical Analysis, Outlier Treatment** and ensembling **Time Series & Deep Learning** models to create **robust** forecasts and avoiding bias developing **automatic hyperparameter selection** methods
- **Topcoder Data Science Challenges** May'20 - Sep'20  
*topcoder.com*
  - **Won 3 international challenges**, employing Business Intelligence & Data skills to forecast firm's financial data
  - Performed graphical and univariate analysis, outlier treatment and applied **Time Series (SARIMAX, VAR)** and **Deep Learning** based models (with automatic hyperparameter selection) to create robust monthly forecasts
- **Price Discovery in Indian FOREX Market (USD-INR)** Aug'18 - Dec'18  
*Dr. Wasim Ahmad* *Poster*
  - Employed **Hasbrouck's Information Share** Model to determine the Information Share of Futures & Spot market
  - Verified the dominance of Futures over Spot markets with range of 73.4% – 92.5% and 7.5% – 26.6% respectively
- **Solar Radiation Over India: Dynamic Panel Analysis** Aug'18 - Nov'18  
*Dr. S.K. Mathur* *Term Paper*
  - Collected the data from NASA and employing **R** to convert more than **2 GB** of CSV data to a single csv file of 10 MB, first time ever use of panel analysis for the study of solar radiation
  - Applied Panel Data Analysis (**Dynamic Panel**) in **Stata**, checking for stationarity and employing various tests and graphs to create the model with lagged variables, employed **Arellano Bover** explaining 93% variation
- **Bayesian Quantile Regression on Semiparametric Ordinal Models** Jan'18 - Apr'18  
*Dr. M.A. Rahman* *Presentation*
  - Using Bayesian Quantile regression over semiparametric ordinal models to have robust estimates & using MCMC methods to develop Algorithms for the estimation
- **Air Pollution & Environment Sustainability** Jan'18 - Apr'18  
*Dr. Debayan Pakrashi* *Poster*
  - Demarcated the effect of consumption and production of coal on air pollution using Panel Analysis with model explaining **82% variation** over 10 countries for 1980 - 2014
  - Tested the theory of Environment Kuznets Curve over these 10 countries using **pooled OLS** in **Stata** and for individual country to monitor the countries performance in terms of air pollution measures
  - Constructed an index to examine the pollution levels from the year of take-off for each country

## RELEVANT CORPORATE INVOLVEMENTS

- **Credit Suisse**, *Equity Analyst* Jun'20 - Present
  - Part of Delta One team, responsible for replicating index performance for hedge funds, managing corresponding PnL
- **Accenture Digital**, *Functional & Industrial Analytics Analyst* May'19 - Jul'19
  - B2B Opportunity Identification
    - Built a real-life **ML** model for one of the biggest social media firm to identify prospective Digital Marketing leads
    - Blended business intelligence with ML to engineer relevant features from a **10M × 25k** sized dataset
    - Tackled fill rates ( $\leq 0.02\%$ ) with series of imputations & employed **VSURF** & correlation for variable selection
    - Performed Quantile based Outlier detection and encoding using **PySpark** & **R** to obtain deployable dataset
    - Developed Business Insights for final **Tableau** gained from **XGBoost** with curated measures for class imbalance
  - B2B Data Interlinking
    - Designed an algorithm to interlink proprietary datasets with **116M** & **56M** entries and 70 attributes using **HIVE**
    - Identified new identifiers and combined them with the curated algorithm leading to **300%** increment in match rates
- **WorldQuant LLC**, *Part-Time Consultant* May'16 - Sep'17, Feb'19 - Sep'19
  - Recruited as a Part-Time Consultant via India Summer Challenge, one of the 500 consultants worldwide (as on 2016)
  - Secured **Country Rank 4** & **Global Rank 15** in consultant only competition for June'19 based on alpha quality
  - Combined Black Scholes Pricing, Fundamental & Technical Analysis to create 100+ viable trading strategies
- **STEMpedia (Agilo Research)**, *Business Development Associate* May'17 - Jul'17
  - Proposed to change the brand offering from a hardware device to a comprehensive solution for overall STEM growth
    - Impact:** Currently Implementing the proposed generalisation, **changing the brand** from **evive** to **STEMpedia**
  - Suggested the idea of **learning-by-playing** as Value Proposition than **learning-by-doing** for the target segment
    - Impact:** Started projecting their product as a toy than an educational kit & developing new products accordingly
  - Assimilated the needs & competitors' offering in the market to come up with the blueprint of a new product
    - Impact:** Tied up with one of biggest company in the domain to launch it as their **flagship product**

## RELEVANT COURSEWORK

Applied Probability & Statistics	Intro to Machine Learning	Foundation of Finance	Fundamentals of Computing
Applied Stochastic Process	Econometrics I & II	Bayesian Econometrics	Financial Econometrics
Probability & Stochastic for Finance	Linear Algebra	Financial Engineering	Mathematical Economics

## TECHNICAL SKILLS

- **Open Source:** Contributed to Open Source R packages
- **Languages & Tools:** C, C++, R,  $\text{\LaTeX}$ , Python
- **Data Query:** PySpark, SQL & HIVE
- **Web Scraping:** BeautifulSoup & Selenium
- **Statistics Softwares:** STATA, GTAP
- **Database Proficiency:** Bloomberg, CMIE (ProwessIQ), CEIC

## LICENSES & CERTIFICATION

- Cleared CFA Level 1

## ACHIEVEMENTS & EXTRA-CURRICULARS

- Secured **National Rank 3** in ICAR and top **0.2%** & **1.5%** ile in JEE Mains & JEE Advanced respectively
- Awarded **A\*** in **Probability & Stochastics for Finance** & Soft Skills and Personality Development courses
- Served as the **Tutor** for a visually challenged student in highly mathematical course of **Foundations of Finance**
- Team Leader in La Trobe University Grand Challenge, recognised among the **top 10 teams** along with AUD250 funding