

Arnab Moitra

Education

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR	Jul' 17 – Apr'22
Dual Degree (B.Tech - M.Tech) - Mining Engineering	GPA: 8.49/10
Micro Specialization – Optimization Theory & Application	GPA: 8.23/10

Skills

Proficient: Python, R, C/C++, MS Office, Power Apps, Power BI, SQL, TORA, Google APIs, FlexSim
Familiar: Tableau, FB-Prophet, CPLEX, Power Automate, Visio, ANSYS, SPSS, MATLAB

Work Experience

ixigo | Intern, Business Analyst Jan'22 – Apr'22

- Devised a Dynamic Discount model for Flights Ticket pricing, using Google APIs and Python
- Optimized the total revenue from the source ensuring Sufficient Commission Margin per Booking
- Wrote MySQL queries for daily reporting of KPIs on Slack and Automating those using Python

AB InBev | Intern, Operations Analytics May'21 – Jul'21

- Used Frequency, Sub-Teams of individuals in Email exchanges to analyze the Network Structure
- Identified Siloed Sub-teams by the ratio of the number of emails exchanged within a team and outside
- Created a Prescriptive Model using Power Apps basis the Behavioral/ Technical competency, OPR Rating

Research Experience

Simulation and Optimization | Bachelor's Thesis Dissertation Apr'20 - Mar'21
Project: Optimal Truck Shovel Allocation in Open Pit Mines

- Undertook literature review and analyzed the Truck-Shovel data from Malanjkhand Copper Project
- Used **TORA** to implement MILP to initially allocate trucks to shovels pertaining to Fixed Assignment
- Applied KS Test to infer about the data & estimated parameters for Normal & Exponential dist. using MLE
- Used **FlexSim** to simulate Heuristics based methods, based on Truck Inter-arrival & Shovel Service Time

Mine Safety Analytics | Master's Thesis Dissertation Jun'21 - Apr'22
Project: Analysis of Various Factors Leading to Injuries in Underground Coal Mines

- Undertook literature review on Mine Safety Analytics and compared mine safety standards in India and US
- Performed Statistical Analysis on MSHA Data for each of the Mining, Experience & Demographic factors
- Performed Multinomial **Logit Analysis** to calculate the log odds and analyzed the importance of factors
- Used Machine Learning models to predict the Degree of Injury & Days Away from Work for injured miners

Hackathon Projects

Excellence Quotient (EQ) | EXL Analytics Mar'21
Project: Predicting no. of COVID-19 cases for each across each County in the US

- Developed a hybrid 'Mean Multiplier' Model and Regression Model for forecasting the cases
- Created Clusters basis Forecasted Demands so that the demand is equally split across clusters
- Used Linear Programming to allocate vaccines optimally, based on Distance from production centers
- **National Runners Up** among 550 teams; won prize money of INR 1 lakh and a PPI offer from EXL

Maverick 2.0, Hack-a-Thon | AB InBev May'21
Project: Stock Balancing Problem – Equalize Stock / RoP ratio

- Designed a Non-Linear Objective function, to balance the CS/RoP ratio across Depots in each grid
- Used the Weighted Penalty Method for flexibility, with individual weights on attributes basis Scenario
- Added Constraints based on Capacity, Feasibility & Profitability issues and solved using Google OR Tools
- Was a **National Finalist** among more than 1200 teams from top institutions across India

Safety Analytics Sep'19 - Oct'19
Project: Air Quality Analysis and Prediction

- Analyzed trend of the Concentration of PM10 and PM2.5 particles and performed a Descriptive Analysis
- Performed Correlation Analysis and determined their significance using t-test, performed Feature Selection
- Found the "Best Linear Regression" Model with attributes at a 5% level of significance using **F - test**
- **Ranked 1st** among teams at Safety Analytics seminar held by **Dept. of Mining Engineering, IIT KGP**