# MUSKAN RAMAVTAR AGARWAL

## ACADEMIC QUALIFICATIONS

| Year | Degree /Board | University /Institution | %/CGPA |
|---|---|---|---|
| 2025* | Post Graduate Diploma in Business Analytics | IIM Calcutta, IIT Kharagpur, ISI Kolkata | - |
| 2020 | B.E. Computer Engineering | Sarvajanik College of Engineering and Technology | 9.04/10 |
| 2016 | CLASS XII | CS Vidya Bharti English School | 81.2 % |
| 2014 | CLASS X | CS Vidya Bharti English School | 82.5 % |

| KEY SKILLS/TOOLS | Power BI, Microsoft Power Platform, Excel, Data Modeling, Data Mining, MSBI, SQL, Azure Data Factory, R |
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## WORK EXPERIENCE (23 Months )

| Inkey IT Solutions Pvt. Ltd. | Associate Software Engineer | Surat (Aug '21 - Jun '23) |
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| **Data Visualisation and Analysis** | ■ Developed & deployed over **20+** Power BI reports for various clients, enhancing their data-driven decision<br>■ Integrated data from **10+** different sources, ensuring seamless & accurate data consolidation for reporting<br>■ Data **modelling** and creating & **embedding** of interactive dashboards that effectively communicate insights<br>■ **Role-based** access to maintain data confidentiality, monitoring the performance and accuracy of reports<br>■ **Optimized** report performance by **reducing** data load times and enabling swift and efficient data retrieval |
| **Data Engineering** | ■ Designed & implemented **data models** for various business domain, ensuring **efficient** data representation<br>■ Led **10+** data migration projects, transferring over 5 TB data, few migrations achieving **minimal** downtime<br>■ Achieved data accuracy approx. **99%** by rigorous data validation & cleansing procedure during integration<br>■ **Optimized** database performance using index & effective data modelling techniques for **rapid** data access<br>■ POC on analysis on various **ETL tools** for optimized and swift data migration to achieve real time migration |
| **Project Mgmt. & Leadership** | ■ Conducted **training** and **assessments** for **15+** joiners to enhance their understanding for data analysis tool<br>■ Delivered **expert lecture** on Power BI during **pre-placement** talk to raise awareness and educate students<br>■ **Assisted** actively in the **talent acquisition** process \| **Published technical blogs** to share valuable insights |
| ACHIEVEMENTS | ■ Awarded by **Stand-Out-Chief** (Employee of the Year- **2022-23**) \| Recognized as a member of **Super Squad** |

## AWARDS AND ACHIEVEMENTS

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| **Certificates** | ■ **Microsoft Certified:** Azure Data Fundamentals **DP-900 \| HackerRank :** SQL (Advanced) |
| **Case Competitions** | ■ **Finalist** in **1000+** teams in **Analytica**, analytics competition organized by **ICAR-NAARM**, **Hyderabad**[23]<br>■ Ranked **6th / 940** teams in "**IDB Analytics 3.0**", analytics case competition organized by **IIM Calcutta**[23] |

## ACADEMIC PROJECTS

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| **Business Recommender System** | ■ Built a content-based filtering **recommendation system** for businesses on dataset **8 GB** of Yelp (JSON files)<br>■ Conducted sentiment analysis with **VADER** & transformed review text & categories using **TF-IDF** Vectorizer<br>■ Identified **top 5** recommendations using **cosine similarity** & **super-score** & addressed the **cold start** issue |
| **Market Risk Analysis** | ■ Performed **sectoral return correlation** and market risk analysis using **CAPM** with **Nifty 50** as benchmark<br>■ Optimized highest - beta sector portfolio using **Markowitz Theory**, resulting in an improved **Sharpe ratio** |
| **Gas Consumption Forecasting** | ■ Forecasted Natural Gas Consumption using past **23** years of monthly data in US that had **250+** observations<br>■ Implemented **SARIMA \| Ljung-Box** for residuals \| **Grid** search via **AIC** & **BIC** for best model \| MAPE **8.87%** |
| **Credit Card Amt. Prediction (Regression)** | ■ Fitted **MLR** (using **OLS, Lasso, Ridge**) model for predicting total transaction amount from Credit Card data<br>■ Performed **EDA**; **ANOVA** ; **Chi-Square** and **KS Test** to check normality of errors \| **PCA** for multi-collinearity<br>■ Analysis of **residuals** using **quantile-quantile** plot \|arrived at **R-squared** score of **0.985** and **RMSE** of **231** |

## ADDITIONAL PROJECTS

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| **Risk & Portfolio Mgmt (Prof Vivek Rajvanshi)** | ■ Formed the **Long - Short** portfolios using **momentum** strategy over a historical period of **14 years** of **NSE**<br>■ Analyzed the portfolios using **Value at Risk** strategy applying **10 decile** approach in **historical** simulation<br>■ Examined the **sub-additive** limitation of **Value at Risk** method during the periods of **unexpected** returns |
| **Inventory Management** | ■ Safety Stock **optimization** based on the **service level** & **lead time** to ensure **minimal loss** due to stockouts<br>■ **Ranking** of vendors through **normalizing** key metrics such as credit period, sales variance & sales volume<br>■ Assessed stocking policies using **Inventory Turnover Ratio** to ensure balance between stock & inventory |
| **Optimizing Flight Operations** | ■ Cancellation/delay **prediction** using a **multi-class** classification model on **1,00,000+** US 2015 flight data<br>■ Improved accuracy by **12.2%** via hyper-parameter tuning with **XGBoost** \| Updated routes using **Dijkstra's** |

## POSITIONS OF RESPONSIBILITY & EXTRA CURRICULARS

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| **Position of Responsibility** | ■ Organized **SCET-A-THON** a 12-hour coding event for the **first time** in SCET during under graduation period<br>■ Main – Coordinator in "**UPDATES 2K18**" state level annual student's tech-fest under computer department |
| **Sports Achievement** | ■ **Winner** of **TT** & **Cricket** at **Section Wars'23** IIM Calcutta\| **1st Runner's Up** of **TT** at **Inter Hall'24** IIT KGP<br>■ Secured **9th** position in Cross-Country at **Interzonal** level **GTU Sports Spirit 2017** |

| ELECTIVES : Big Data Processing, Financial Risk Mgmt., SCA | INTERESTS : Gardening, Clay Modelling |
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