

ROHIT GUPTA

M.Tech, Industrial and Management Engineering

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ACADEMIC QUALIFICATION

YEAR	DEGREE	INSTITUTE	CGPA / %
2018	M.Tech (Industrial & Management Engineering)	Indian Institute of Technology, Kanpur	8.7/10
2017	B.Tech. (Mechanical Engineering)	Rajkiya engineering college, Banda, U.P.	73.66%
2012	Class XII, CBSE BOARD	Jawahar Navodaya Vidyalaya Lalitpur U.P.	75.20%
2010	Class X, CBSE BOARD	Jawahar Navodaya Vidyalaya Lalitpur U.P.	8.8/10

M.TECH THESIS

Job Shop Scheduling with Parallel Machines

(Aug 2019- Jun2020)

- Provided two **Mixed integer linear programming formulation and one disjunctive graph model** to solve the problem.
- **Solved for three common objectives makespan minimization, tardiness minimization and flow-time minimization.**
- Provided a **heuristic based on shifting bottleneck algorithm** for solving the problem sub-optimally.
- Working on **column generation algorithm, with objective minimize bi-criteria weighted tardy jobs and tardiness for flexible job shop scheduling problem with parallel machines.**

INTERNSHIP AND PART-TIME WORK

NPTEL, IIT Madras , Chennai , Tamilnadu (Transcript Reviewer – Part Time)

(13th Aug 2020- 30th Oct 2020)

- Reviewing and correcting the transcript and study material of **Data Analysis and Decision Making – 1** course of NPTEL.
- **DADM-1** contains topics related to **Statistics , Hypothesis testing , Univariate and Multivariate regression Model.**

Tiger Analytics , Chennai , Tamilnadu (Data Analyst Intern)

(15th July 2020- 15th Oct 2020)

- Model generation for predicting rent per unit area of buildings using **Multivariate regression logistics real estate-based company.**
- Model generation for identifying potential churners ahead of time using **Logistic Regression, Decision Trees and Random Forests** for a **telecommunication network provider in US.**
- Also did courses of **SQL, R, Python, Excel, statistics and Machine learning** from **Udemy**

SARDA Group, Nashik, Maharashtra, (Management Intern)

(6th May 2019- 6th July 2019)

TITLE - Process Mapping for **Business Process Reengineering** – Updating the **As-Is Methodology** and developing a Project Methodology

- Mapped the As-Is process of the **Maintenance process** at SARDA farms for BPR using **Microsoft Visio**,
- Identified certain problems in the maintenance process across units and **suggested solutions** for the same, which will be useful for making **To-Be process** of the maintenance department.
- Updated the existing **As-Is Methodology** with reference to problems faced while mapping the Maintenance process and provided guidelines to map processes that do not have an established formal structure
- Made changes to make the methodology more robust – to ensure that the process is mapped suitably and duly represented in order to proceed with further steps of Business Process Reengineering.

PROJECTS

New York City Taxi Fare Prediction (Data Mining Project)

(Aug 2018-Nov 2018)

- **Objective:** Predicting taxi fare using pickup and drop-off locations and date and time of journey using **R Studio**.
- **Data Preprocessing & Visualization:**
 - Steps followed involved **Data pre-processing**, tested some basics intuition/hypothesis **statistically** and by visualizations.
 - A model was build taking the analysis into consideration, that could in turn model the non-linear time dependency, different pricings, location dependencies and avoid the direct point-to-point distance measure.
- **Modelling:** Used **Polynomial Regression, decision tree**, ensemble methods like **random forest, Gradient Boosting Regressor, xgboost** models and compare them on basis of **RMSE** matrix.

Ethereum Price Prediction (Time series data) (SMBA Project)

(Mar 2019 -April 2019)

- Checked for **Stationarity, Seasonality** and **EDA** for past 4 year data and predicted Ethereum closing price for 45 consecutive days.
- Built statistical models **Exponential Smoothing, AR Model, ARIMA, ADL model** and finalized a model with **RMSFE=37.22_**

Analysis of Factors Affecting Price of Real Estates (Non-linear data) (SMBA Project)

(Jan 2019 - Feb 2019)

- Carried out **multivariate statistical regression** analysis to study the factors influencing real estate prices.
- Calculated measure of **fit, correlation matrix**, performed **EDA, heteroskedasticity test** and checked for **multicollinearity** and omitted variable bias.
- Built **log-linear, linear-log, log-log and non-linear models** and finalized a model with **adjusted Rsquared value 0.79 and SER=0.203**

Google Page Ranking Algorithm by Markov Chain (Stochastic Term Paper)

(Jan 2019 -April 2019)

- A brief Mathematical study of Page Ranking Algorithm starting with the basic idea to formulating it mathematically along with its implementation and limitations. (like **rank sink, dangling links, the effect of periodicity**)
- The process includes formation of **Google matrix** and creating intelligent surfer by modifying **teleportation matrix**

Solving Multi-Facility Location Problem optimally, Using Convex Hull (DOPS Term Paper)

(Oct 2019-Nov 2019)

- Locating the **facilities** so as to serve **optimally** a given set of **customers**, whose locations and requirements are known.
- Finding of sets of all possible unique **convex hull** and **optimizing** the problem using **Integer linear programming**.

OTHER RELEVANT PROJECTS

- **Revenue Management in Railways using Dynamic Pricing** (Operations Management Term Paper) (Jan 2019 -April 2019)
- **Designing a bank form in HTML and storing the data into MariaDB database** (CADS Project) (Jan 2019-April 2019)
- **Designing a DSS to compare means of group of one-way ANOVA method** (CADS Project) (Jan 2019-April 2019)

RELEVANT COURSE & TECHNICAL SKILLS	
Relevant courses	Data Mining Probability & Statistics Operation Research Introduction to Computing-JAVA Computer-Aided Decision System Introduction to Stochastic Processes Operations Management Statistical Modelling for Business Analytics Design of Production System
Technical skills	R C C++ JAVA Python Microsoft Visio HTML SQL PHP GAMS Microsoft Excel
POSITION OF RESPONSIBILITY	
<ul style="list-style-type: none"> Branch executive of Technical Committee, REC Banda (July 2018-April 2016) Media in-charge of Literary and Fine Arts Committee, REC Banda (July 2018-April 2015) 	
CULTURAL AND OTHER EXTRA-CURRICULAR ACTIVITIES	
<ol style="list-style-type: none"> Worked as a Writer (Hindi) in VOX POPULI, IIT Kanpur (2018- 2019) <ul style="list-style-type: none"> Taken interview of Poets (Padma - shree liladhar Jagoodi and Rakesh Tiwari) during Antaragini IITK, 2018-19 Covered news of General body meeting of fellowship hike. Worked with a small (2-3 member) team during interviewing and covering the news in IIT kanpur. Involved in open house diamond jubilee as an IME department representative. (2020) Able to put footprints on magazine Antas-2020 by publishing my poem (2020) Served two years in Siksha Sopan (NGO managed by Prof. HC Verma) (2018-2020) 	
AWARDS & ACHIEVEMENTS	
Academic Achievements	<ul style="list-style-type: none"> Qualified Level 1 of Machine Learning Quiz of Flipkart GRID - Te(a)ch The Machine 2019 and participated in Level 2 Won a second prize for Best Project Award by R.E.C. Banda 2017 Secured All India Rank 1725 in GATE-2018 (Mechanical) with 99.11 Percentile
Hobbies	Poetry and Story writing http://bevakt.blogspot.com/