

# Rashi Gupta

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## PROJECTS

### Recommendation System

ABInBev ALe-GO:Rhythm March'22

- Built a recommendation system using various Collaborative filtering techniques
- Introduced features like **cross-sell** and **up-sell** for better shopping experience
- Performed feature engineering on **30+** features using **numpy** & **pandas**, imputed missing values using **decision tree model** on ABInBev's annual sale dataset
- Employed **Elbow method** to get optimal **K-means** and **K-prototype** clusters
- Used **Matrix Factorisation** & **Alternating Least Squares** achieving **AUC of 0.83**

decision tree pandas sklearn scipy python matplotlib ALS

### SVM in Depth

Course Project - Prof. Suparno Mukhopadhyay, IIT Kanpur Apr'22-May'22

- Objective** : Implement **Support Vector Machine** algorithm from scratch
- Utilized **Lagrangian multiplier** method to get optimal hyperplane & investigated **linear, polynomial & radial basis function(RBF)** kernels for decision boundaries
- Structured **SVC** algorithm's code in **Object Oriented Programming** manner
- Tested a classification dataset and obtained same accuracy of **84%** from sklearn's SVM module and our custom SVC class

Kernel Method OOPs Algorithms matplotlib pandas sklearn

### Predict Sentiment of Movie Review

Course Project - AWS ML Engineer Nanodegree Program Nov'21-Dec'21

- Preprocessed IMDb dataset using **BeautifulSoup**, **Natural Language Toolkit** and used **CountVectorizer** to extract bag of words feature
- Performed hyperparameter tuning using **GridSearchCV** and employed **AWS Sagemaker** for preprocessing, batch transform and training **Xgboost** model

AWS Sagemaker BeautifulSoup nltk Xgboost sklearn pandas

### Markowitz Portfolio Optimization

Self Project Aug'21-Oct'21

- Used **Modern Portfolio Theory** to analyze risk and return of different stocks and their relation with each other and the market
- Eliminated the specific risk to obtain optimal weights for maximum **Sharpe ratio** and **minimum variance** portfolio thereby maximizing the risk adjusted return
- Quantified **risk-to-reward** using Treynor Ratio, calculated **Value at Risk** for investment portfolio and analysed the individual portfolio using **Efficient Frontier** by considering the individual investor's risk tolerance
- Applied **Sortino ratio**, **Jensen alpha** & **beta value** as measures of performance

Statistics Financial Modelling Python Fixed Asset Management

### Rubik's cube solver

Speed Cubing Club, IIT Kanpur May'20-July'20

- Worked in a team of 4 and developed a **3x3 Rubik's Cube solver** using **Fridrich method** (CFOP) in C++ to be implemented on a virtual simulator
- Optimized the solver by introducing advanced moves with **F2L Algorithm** for 41 different variations to solve the corner-edge cubies
- Obtained solutions reaching an average of **55-65 moves** per solve

CFOP C++ Processing rubik's cube simulator OOPs

## COURSES

Fundamentals of Computing Introduction to Statistics ** Engineering Design and Graphics Real Analysis and Integral Calculus	Machine Learning ** AWS ML Course** Python for Everybody** Introduction to Complex Analysis	Fundamentals of Reinforcement Learning ** Project Management* Linear Algebra and Differential Equations Scientific Data Analysis Interpretation
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## EDUCATION

### Indian Institute of Technology Kanpur

**B.Tech** CPI: 6.94/10  
2019 - 2023 Kanpur

### Maharishi Vidya Mandir

**C.B.S.E.** Percentage: 94%  
2018 Barabanki

### Maharishi Vidya Mandir

**C.B.S.E.** CGPA: 10/10  
2016 Barabanki

## ACHIEVEMENTS

- Offered the full time role of **Data Scientist** by **Sprinklr** during the on-campus placements
- Qualified for **finals of ABInBev ALe-GO:Rhythm** hackathon among **5600+** candidates
- Recipient of **AWS ML Engineer Nanodegree Program** given to top **425** performers of AWS ML course
- Recipient of **Govinda and Indira Srikantiah** Scholarship in the academic year 2021-22
- Certificate of Merit** by CBSE for outstanding performance comprehensively in CBSE-X examination

## SKILLS

### Programming Languages

C | C++ | Python | MATLAB

### Software and Libraries

NumPy | Pandas | Matplotlib | Keras | TensorFlow | Co-lab/Jupyter | Notebooks | Scikit-learn | Tinkercad

### Utilities and Tools

Git | Arduino | AWS SageMaker

## EXTRACURRICULARS

### Cultural

- Member of Mime and Street play team that **secured 1st position in Inter IIT cult meet** and **1st runner up in Antaragni'19**
- Performed **2 Street Plays** and **2 Mimes** as part of Institute Dramatics Club in Interhall and Intercollege competitions

### Sports

- Participated in Inferno (sports competition for freshers) in various athletics events
- Second runner up** in Quiz competition organized by district Youth's Association amongst **1600+** students

\*ongoing \*\*online