MAYANK GOVIND AGRAWAL | 17ME3FP13

MECHANICAL ENGINEERING/FINANCIAL ENGINEERING
MINOR in COMPUTER SCIENCE & ENGG. (B.Tech 4Y)

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2022	M.TECH Dual Degree 5Y	IIT Kharagpur	8.70 / 10
2016	Higher Secondary Certificate Examination	MSBSHSE	76.62%
2014	All India Secondary School Examination	CBSE	10 / 10

COMPETITION/CONFERENCE

+ Secured **Rank 90** among 4401 teams in Online Qualification Round of **ACM-ICPC 2019-20** and got selected for Amritapuri Regionals.
+ Advanced to **Round 2** in **Google Code Jam 2020** with **95** percentile and in **Google Code Jam 2019** with **92** percentiles
+ Secured **Rank 157** among 10925 participants in worldwide competition **Google Kickstart** 2020 Round A.
+ Secured **Global Rank 14** and **India Rank 7** in **International Coding Marathon** among 559 participants, hosted by **IIT-BHU**, Varanasi.
+ Secured **Rank 3** in Virtual Stock Simulation among 60 participants, conducted by Entrepreneurship Development Cell, BIT Mesra

AWARDS AND ACHIEVEMENTS

+ Achieved a rating of **2173**, became **Master** on Codeforces, secured the highest **Rank 11** among 12044 participants in one of the contest.
+ Achieved a rating of **2215** and a **6-star** status on Codechef
+ Secured **AIR 1578** among 2.2 lakh students in **JEE Advanced** 2017 and **AIR 4686** among 12 lakh students in **JEE Mains** 2017

INTERNSHIPS AND PROJECTS

Software Engineering Intern (May 2021- July 2021) **Google India**

+ Added **Share** button on the success page of **Google Pay** Application. The screen will show **View reward** button if rewards are available.
+ Added **UPI transaction id** and **VPA** information on the success screen so that the user can share those details through any medium.
+ Clicking on **Share** button will take the **screenshot** of the success screen and open the share sheet, through which screenshot can be shared.
+ Added Close button on the success page, clicking on which will skip the rewards animation.
+ Worked on launch of the project and get all approvals from the respective testing teams. Also worked on tracking different latencies.

Modelling and Optimization of Naptha Cracking Unit (May 2019- June 2019) **Guide: Prof. Sudeshna Sarkar**

+ Predicted production of Ethylene, Propylene and RPG at the Haldia Petrochemical Plant, given the amount of Naphthalene and LGP
+ Removed outliers and incomplete values from the data and trained various models like XGBoost, Simple Neural Networks, Recurrent Neural Network (RNN) and Long short-term memory (LSTM) and predicted output variables with significant accuracy.
+ Predicted and plotted trend graphs of the production of Ethylene, Propylene against given ratio and quantity of LGP and Naphthalene.

Modelling Integration of Emerging Market Indices with Machine Learning Methods (Aug 2019 - Oct 2019) **Guide: Prof. Abhijeet Chandra**

+ Forecasted time series of indices of emerging economies and commodities using ARIMA & SARIMA Models to account for seasonality
+ Implemented Deep Learning models to identify and predicts shocks to commodity prices and studied correlation with currency time series

Shortest Path for a Point Robot - Term Project, Computational Geometry (Jan 2020 - May 2020) **Guide: Prof. Bhargab B. Bhattacharya**

+ Found the shortest path for a point robot in a 2-D plane, given some polynomial obstacles between source and destination.
+ Created Visibility Graph through Naive Algorithm ($O(n^3)$) and then using the Binary Search Tree Algorithm ($O(n^2 \log n)$).
+ After the creation of the visibility graph, Dijkstra's Algorithm was used to get the required Shortest Path.

Digit Recognition using Deep Learning (May 2019) **Kaggle**

+ Created a model that can read handwritten digits with an accuracy of **99.2%** and trained it with 28*28 pixel images
+ It was built with the application of tensor flow using multiple layer convolutional networks and neural networks.

Self Projects

+ Minesweeper: Created Minesweeper game from scratch on C++ that can be played in the terminal with varying difficulties.
+ Sudoku Solver: Created Sudoku Solver in C++, purely based on backtracking, that can solve any sudoku within a second.

COURSEWORK INFORMATION

Completed: Programming and Data Structures | Programming and Data Structures Lab | Algorithms-1 | Algorithms-1 Lab | Computational Geometry | Probability and Statistics | Artificial Intelligence | Regression and Time Series Model | Economics | English for Communication
Ongoing: Advance Graph Theory | Stochastic Processes in Finance
Online Coursework: Machine Learning | Neural Networks and Deep Learning | Convolutional Networks | Data Analytics

SKILLS AND EXPERTISE

Programming Languages: C | C++ | Python | Octave | R **Tools**: Eclipse | Git | Visual Studio | Latex | Solidworks | Bloomberg
Development: Dart | Flutter | Android Studio **Web:** HTML | CSS

POSITIONS OF RESPONSIBILITY

Secretary Indoor Games, Rajendra Prasad Hall Association (2018-2019)

+ Elected to Hall Council by over 800 boarders and served as Sports Secretary for session 2018-2019
+ Handled a budget of INR 2 lakh for the sports and met all the requirements of the teams, while myself participating in Table-Tennis.
+ Ensured daily practice for the General Championship and also motivated freshers to take part in the sports activities.

EXTRA CURRICULAR ACTIVITIES

Table Tennis: Student member of the Extra Academic Activity NSO Table Tennis for two years. Also represented Rajendra Prasad Hall of Residence in General Championship for two consecutive years.
Mentor to 6 third-year students and helped them in improving their competitive coding skills.

!self declaration by the student