Tanmay Jain
B.Tech.
Indian Institute of Technology Bombay

linkedIn
+91-8769040327
tanmayjain0202@gmail.com

Education

Indian Institute of Technology Bombay 2024
B.Tech in Chemical Engineering with Minor in Computer Science & Engineering CPI: 7.75

Vidyasthali Public School, Jaipur 2020
Intermediate Education, CBSE Percentage: 95.20%

Vidyasthali Public School, Jaipur 2018
Secondary Education, CBSE Percentage: 90.40%

Work Experience

Quant Intern, SM&D | Barclays *(May'23 - July'23)*

Quantitative Analysis | Equities - Asia Pacific

- **Re-calibrated** Market Impact Model parameters, methodology involved **7 step** using various algorithms.
- Processed **1 million+** trade entries from various exchanges using different financial & statistical techniques.
- Resulting in reducing RMSE score by **50%,** improving the trading desk **decision-making** in real-time.

Quantitative Development | Fixed Income - Europe

- Build a **robust real-time alert system** to monitor and notify the status of Production RFQ execution.
- Effectively reduced **prolonged downtime** of execution by incorporating **crash detection** architecture.
- **Creative** enhancements by adding **dynamic notification intervals** & **enriched notification details**.

Technical Projects

Enhanced xv6 OS | *Course Project: Operating Systems* | *Guide: Prof. Mythili Vutukuru (Jan'22 - April'22)*

- Build a **Bash-like shell** in **C**, using various **system calls**, capable of running simple **Linux commands**.
- Implemented synchronization functionality of semaphores using **pthreads mutexes** & condition variables
- Enhanced functionality by introducing a **new system call** adept at managing **page fault traps** and **on-demand memory allocation**, ensuring optimal physical page allocation as per process requirements.

Credit Card Fraud Detection | *Self Project* *(Dec'22)*

- Developed a machine learning model to detect credit card fraud using **Python** and **Scikit-learn**.
- Processed data by handling missing values, scaling features, and addressing class imbalance with **SMOTE**.
- Implemented & compared algorithms like **Logistic Regression**, **Decision Trees** & **Random Forest**.
- **Evaluated** model performance using **accuracy**, **precision**, **recall**, **F1-score**, and **ROC-AUC** metrics.

Clash of Clans Clone | *Self Project* *(Dec'21)*

- Developed a **terminal-based** Clash of Clans game using **Python** for interactive gameplay.
- Implemented **object-oriented programming** principles for creating buildings, troops, and spells.
- **Incorporated game logic** for resource management, troop movement, and combat simulation.

Facial Recognition App | *Seasons of Code* | *Institute Technical Council, IIT Bombay (April'21 - July'21)*

- Developed a **Colab-based** face recognition web app using a **facial recognition** library to detect faces.
- Extracted **128-d** face encodings using Histogram of Oriented Gradients for accurate feature extraction.
- Implemented a GUI for **user labeling**, **model training**, and **future predictions** on new images.
- Integrated **DBSCAN** to cluster similar faces, organizing results into folders for efficient photo grouping.

Extracurricular

- Secured **2nd** rank in the **Q-Viz-It** Competition organized by Azeotropy, IIT Bombay *(2022)*
- Achieved **3rd** rank in **Bosch Industry Challenge** for deploying **Blockchain** solution using **C++** *(2021)*
- Ranked **3rd** in SciComp Blitz GC for developing Mathematical & Physics-based coding solutions *(2021)*
- Completed **year-long** training in NSO Sports at IIT Bombay, enhancing fitness and discipline *(2020-21)*