Mehul Agrawal

+91 9411339963
mehul.agrawal17@gmail.com

Education

BITS Pilani, Hyderabad Campus *2017 - 2021**
B.E. in Computer Science *8.24/10*

*Graduated a semester early from a 4 year course (January 2021).

Skills

- Courses: Data Structures and Algorithms, Database Systems, Object Oriented Programming, Operating Systems, Computer Networks, Data Mining, Information Retrieval
- Proficient in Java, Python, C/C++, SQL; familiar with MATLAB

Experience

Bank of New York Mellon *Aug 2020 - Dec 2020*
Graduate Summer Associate

- Developed user-facing tools to automate key operational tasks for the Revenue and Billing Services team at BNY Mellon.
- Used Visual Basic for Applications (VBA) and Microsoft SharePoint to streamline and automate tasks like VAT verification for high volume transactions, and payments reconciliation for Transaction Lifecycle Management.

Edifecs *May 2019 - Jul 2019*
Intern

- Developed a Java package from scratch to extract insurance claim information from Electronic Data Interchange (EDI) files without using any external library dependencies.
- Analysed the performance of the package by generating test data containing millions of unique claims based on user-defined templates. Significant performance improvement was achieved and existing system was replaced.

Key Projects

File Sharing Application using Reliable UDP *Apr 2020 - May 2020*
Computer Networks

- Developed a file sharing application in Python by designing and implementing an application layer protocol for reliable data transfer over UDP based on Go-Back-N principle.
- Analysed network throughput by considering various parameters like network delay, packet loss, packet reordering, and packet corruption.

RGB Image Encryption using Heat Equation and DNA Sequencing *Aug 2019 - May 2020*
Image Processing, Cryptography

- Built a novel encryption-decryption pipeline for RGB images using the Generalized Heat Equation and the Chebyshev chaotic map for generating the random keyspace and DNA Sequencing to scramble the pixels, with implementation in MATLAB.
- Currently working towards publishing the methodology and results.

Detection of Fraud Credit Card Transactions using Outlier Detection *Mar 2019 - Apr 2019*
Data Mining, Machine Learning

- Implemented Local Outlier Factor (LOF) and DBSCAN in Python for detecting fraudulent transactions.
- Used PCA for dimensionality reduction and plotted the transactions for different parameters (Epsilon for DBSCAN and K for LOF) highlighting outliers.

Cluster Analysis on Amino Acid Sequences *Feb 2019 - Mar 2019*
Data Mining

- Implemented K-Means and Hierarchical clustering in Python with agglomerative and divisive approaches using different types of linkages to identify clusters in amino acid sequences

Social Platform for Entertainment Industry *Feb 2019 - Apr 2019*
Database Systems

- Created a web based movie database portal using PHP, MySQL, and Apache HTTP Server.
- Implemented features like customized homepages, past and upcoming Movies/TV-Shows listings, news/trivia, and top lists.
- Added functionality like befriending and following people to make a social network.