

Vishal Singhanian

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EDUCATION

MANIPAL UNIVERSITY JAIPUR

Faculty of Engineering

BTECH IN COMPUTER AND

COMMUNICATION ENGINEERING

MINOR IN DATA SCIENCE

Aug 2024 | Jaipur, Rajasthan

Cum. GPA: 8.91 / 10.0 (till 5th Sem)

LINKS

Github/SinghanianV

LinkedIn/singhanian-v

Kaggle/bigvish

CodeChef/big_v

Codeforces/BigV_

Leetcode/bigV_

COURSEWORK

UNDERGRADUATE

Design and Analysis of Algorithms

Data Structures and Algorithms

Object Oriented Programming

Operating Systems

Database Systems

Computer Networks

Machine Learning*

Data Mining and Data Warehousing*

Computer Architecture

Automata Theory & Compiler Design*

Wireless Communications*

Probability & Statistics

Discrete Mathematics

[*to be completed by May 2023]

OPENCOURSEWARE

(Google Drive link to Certifications)

SKILLS

PROGRAMMING

Comfortable:

C • C++ • Python • Java

MySQL

Familiar:

MATLAB • Shell • Git

HTML, CSS • JavaScript

INTERESTS

Algorithms • Math • Economics

Competitive Programming

PROJECTS

STOCK EXCHANGE | API, WEBAPP, DATABASE

Flask | SQLite | Python | HTML, CSS | JavaScript

- A WebApp that allows logged-in users to "buy" and "sell" stocks (with pretend money) as well as look up real stock quotes fetched from **IEX API**. Users can also view their stock portfolio transaction history.
- The **Database** stores a **hash of the user's password** corresponding to their username.
- Require that a user input a **stock's symbol** whose quote is displayed by **querying IEX** for stocks' prices. All the **transactions** are subsequently updated in the **database** and in their book.

WORDLE | CLI APP, INFORMATION THEORY, ALGORITHM

Python

- An implementation of the famous game **Wordle** (originally developed by Josh Wardle) in Python than can be played via the terminal.
- Player should guess the word in at-most six guesses. Each guess must be a valid five-letter word. The color of the tiles will change to show how close your guess was to the word.
- Using dataset of 13k five-letter words, implemented an **Algorithm** that solves any wordle game in at-most four guesses, from **3b1b's entropy idea** which uses **information theory** to guess the next best word.

HOUSE PRICE PREDICTION | DATA SCIENCE, MACHINE LEARNING

NumPy | Pandas | Python

- Used **NumPy** and **Pandas** to extract useful data which affects house prices.
- Applied advanced regression techniques like **Random Forest** and **Gradient Boosting** to predict the prices (ranked under 800 out of 21k competitors on Kaggle).

ENCRYPTED CHAT | CRYPTOGRAPHY, NETWORKS

Socket | RSA (Rivest Shamir Adleman) | Python

- A CLI peer-to-peer (P2P) Chat App which uses the **RSA** (library) and the **Socket** (library) to implement **Asymmetric-Key** (public-private key pair) encryption algorithm to send and receive messages.
- One user (node) listens on a port number at an IP address, while the partner (node) reaches out to form a connection using a connection-oriented **TCP protocol**.

PASSWORD MANAGER | CRYPTOGRAPHY

Fernet | Python

- A CLI Password Manager which uses the **Fernet** module in **Cryptography** (package) to encrypt passwords using **Symmetric-Key** encryption.
- The user can **save** and **retrieve** passwords locally using their **master password**.

ACHIEVEMENTS

2023 **3 star (Div. 2)**

2023 **Global Rank of 293**

2023 **Global Rank of 356**

2022 **Global rank of 946**

2022 **Qualified Round 1**

2021 **Open Source**

Highest **rating of 1600** on CodeChef

CodeChef Starters 75

CodeChef Starters 76

Codeathon organized by IIT BBS

ACM Semi Code (an Institute level Codeathon)

Contribution recognized in **Hacktoberfest**