# UTKARSH SHRIVASTAV

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## PROJECTS

❖ **Chat Room** (Github)                                                                 | **Python, Socket Programming, PyQt**
  · A simple chat room application built using the **socket programming** concepts and **TCP protocol**.The client side UI is made using the **PyQt5**.
  · Implemented a user-friendly interface with PyQt5 allowing users to easily join the chat room, send messages, and gracefully exit the application, showcasing proficiency in GUI development and **client-server architecture.**

❖ **Handwritten Digit Recognition** (Github)                                 | **Python, Tensorflow, Keras, Numpy**
  · Developed a Handwritten Digit Recognition system utilizing **TensorFlow** and **Keras** neural networks to accurately predict numbers from handwritten digits.
  · Implemented **softmax function** for numerical stability and **Sparse Categorical Cross-entropy loss function** to facilitate predictions between 0-9, ensuring robust classification performance.
  · Utilized **Confusion Matrix** and **Seaborn** to evaluate the accuracy of the dataset, providing insightful metrics for assessing the model's performance and improving its predictive capabilities.

❖ **Book Recommender System** (Github)                                         | **Numpy, Pandas, Scikit-Learn**
  · Created a Book Recommender System using Python libraries **Numpy**, **Pandas**, and **Scikit-learn** within **Jupyter Notebook environment**, leveraging datasets sourced from Kaggle.
  · Implemented **Cosine Similarity** to identify similar books, employing Pandas for efficient data manipulation and processing to enhance recommendation accuracy.
  · Developed a robust recommendation engine capable of suggesting relevant books based on user preferences, demonstrating proficiency in data analysis, machine learning techniques, and **collaborative filtering methodologies**.

❖ **Sudoku Solver** (Github)                                                                                             | **C++**
  · Implemented a Sudoku Solver in C++ leveraging the **Backtracking Algorithm**, a fundamental concept from **Data Structures and Algorithms**. Utilized recursion to efficiently explore and solve Sudoku puzzles. Incorporated **File Handling concepts** to output solutions to text files, demonstrating proficiency in algorithmic problem-solving and file manipulation techniques.

## EDUCATION

❖ **Electronics and Communication (ECE)** | Institute of Engineering & Technology, DAVV
  CGPA: 7.26 | (Nov 2021 - Present)

## ACHIEVEMENTS / HOBBIES

❖ **Codechef** : 3 Stars with maximum rating : 1616 (Profile).
❖ Best Ranking in the contest (codechef) : **Global Rank 85**.
❖ Participated in **Meta Hacker Cup** Qualified for Round 1 (Certificate)
❖ Playing Chess and Reading Books.

## RELEVANT COURSES

Data Structure, Computer Programming in C++, Object Oriented Programming
**Online Courses:-**
Machine learning Specialization , Neural Networks and Deep Learning, Artificial Intelligence Foundation : Thinking Machines, Introduction to Programming with Python (CS50)

## TECHNICAL SKILLS

**Programming Languages** : C++, Javascript, Python.
**Machine Learning** : Tensorflow, Keras, Numpy, Pandas, Scikit-Learn
**Databases** : SQL, NoSQL, Mongodb.
**Frameworks** : NodeJS, Django, Flask, Express, Socket Programming.