

Raghav Chhabra

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EDUCATION

Thapar Institute of Engineering and Technology

Bachelor of Engineering in Computer Engineering; CGPA: 8.89/10.0

Patiala, India

August 2023 – May 2027

FloraDale Public School

High School - CBSE; Percentage: 83.4%

Sri Ganganagar, India

August 2021 – May 2023

TECHNICAL SKILLS

Programming Languages and Databases: Python, C, C++, HTML, CSS, JavaScript, SQL, LaTeX, SQLite3

Libraries: Pandas, NumPy, Scikit-learn, Surprise (scikit-surprise), Matplotlib, OpenCV, Seaborn, React

Frameworks: TailwindCSS, Flask, Streamlit

CS Fundamentals: Operating Systems, Object-Oriented Programming, Database Management Systems

Data Science: Data Cleaning, Feature Engineering, Exploratory Data Analysis (EDA), Statistical Analysis, Data Visualization, Hypothesis Testing, Model Evaluation

Machine Learning: Regression, Classification, Clustering, Reinforcement Learning, Deep Learning (ANN, CNN), Natural Language Processing (NLP)

PROJECTS

Energy Consumption Forecasting using Machine Learning

GitHub

- Developed an end-to-end energy consumption forecasting pipeline on the UCI Household Electric Power Consumption dataset, performing EDA, data cleaning, and engineering 80+ time-series features (lag, rolling statistics, EWMA, cyclical encoding, electrical metrics) to improve predictive performance
- Trained and evaluated 7 regression models (Ridge, Random Forest, XGBoost, CatBoost, Stacking Ensemble) using standardized features and error analysis
- Achieved 99.53% forecasting accuracy with Ridge Regression, delivering low RMSE/MAE and stable generalization on unseen data

Book Recommendation System

GitHub

- Engineered a personalized book recommendation engine in Python, leveraging TF-IDF Vectorization and cosine similarity to deliver high-relevance suggestions based on user preferences
- Applied collaborative filtering with Singular Value Decomposition (SVD) using Scikit-surprise, achieving an RMSE of 0.84 on the Goodbooks-10k dataset
- Modeled complex user-item interactions using bipartite graphs with NetworkX and integrated the A* search algorithm to optimize recommendation paths, enhancing personalization and accuracy.

WORK EXPERIENCE

AI/ML Intern, OutriX

Remote

July 2025 - August 2025

- Designed, implemented, and trained a custom Convolutional Neural Network (CNN) architecture using PyTorch to classify images into 10 distinct categories, achieving high model accuracy on the CIFAR-10 dataset
- Created custom dataset classes and upgraded data loaders to efficiently process the CIFAR-10 dataset
- Delivered weekly updates and a final report covering methodology, results, and future scope for both projects.

ACHIEVEMENTS

- Selected as one of the Top 450 students from over 20,000 applicants for the AlgoUniversity Technology Fellowship
- Ranked among the top 30,000 out of 5 million+ users on LeetCode(Profile)
- Solved 1000+ Data Structures and Algorithms problems across multiple competitive coding platforms
- Achieved National Semi-Finalist status in Flipkart GRID 7.0, a premier engineering challenge, selected from over 160,000 participants nationwide
- Selected for the McKinsey Forward Program (McKinsey & Company)

Relevant Coursework

Data Structures and Algorithms | C/C++ Programming | Artificial Intelligence | Machine Learning