RISHABH PRAJAPATI

BSc-CSDA

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ABOUT ME

Hi, I'm Rishabh Prajapati, a second-year undergraduate student at IIT Patna, pursuing a Bachelor's in Computer Science and Data Analytics. I'm passionate about data science, machine learning, and AI, and I enjoy building real-world projects that solve meaningful problems.
With a solid foundation in Python and tools like scikit-learn, Pandas, and NumPy, I've worked on multiple ML projects — including car price prediction and student performance analysis. I'm currently expanding my knowledge in Data Structures and Algorithms using Python, and I'm especially interested in research areas like fire science, safety engineering, and intelligent systems.
In addition to programming, I have strong analytical skills and experience with tools like Microsoft Excel, Google Sheets, and data visualization libraries. I enjoy turning raw data into clear, actionable insights that support smart decision-making.

PROJECT

Car Price Prediction with Machine Learning

Developed a machine learning model to accurately predict the prices of used cars based on key features such as brand, model, mileage, year, and fuel type. The project involved extensive data cleaning, preprocessing, and feature engineering to improve model performance. Implemented a Linear Regression algorithm and evaluated its effectiveness using the R^2 score. Utilized Python along with libraries such as Pandas, NumPy, scikit-learn, and Matplotlib for data analysis, modeling, and visualization.

Brain Tumor classification using Deep learning

Developed a deep learning model to classify brain MRI images as tumor or no tumor using real-world environmental medical imaging data. Leveraged the pre-trained VGG-16 architecture for feature extraction and fine-tuned it for binary classification, achieving an accuracy of 93.77%.
The project involved comprehensive steps including data ingestion, base model preparation, model training, and evaluation. Used MLflow for efficient experiment tracking and model performance evaluation. Technologies used include Python, TensorFlow/Keras, MLflow, and various image preprocessing techniques.

Automated Data Analysis App

Developed an application to automate the data analysis process, significantly streamlining the generation of actionable insights. The tool integrates automated data cleaning, exploratory data visualization, statistical analysis, and report generation into a single workflow.
Utilized Python along with libraries such as Pandas, NumPy, and Matplotlib to ensure efficient data processing and visualization. This solution enhances productivity by reducing manual effort and enabling faster, more consistent analysis across datasets.

Students Performance Prediction (Math Score) System

Built a machine learning model to predict students' math scores based on demographic and academic features.
Utilized Python, Pandas, scikit-learn, and visualization tools for data preprocessing and analysis.
Implemented multiple regression models including Linear Regression, Ridge, Lasso, SVR, and DecisionTreeRegressor, with hyperparameter tuning via RandomizedSearchCV. Also explored XGBoost and CatBoost for enhanced accuracy.
Gained hands-on experience in data ingestion and visualization techniques like violin plots to interpret student performance trends.

SKILLS

Python , Pandas, Numpy, Matplotib, Seabron, plotly ,Exploratory Data Analysis (EDA), Statistical Analysis, Statistics, Feature Transformation, Feature Extraction (PCA),Data Visualization , Linear Regression, Logistic Regression, Decision Trees, Random Forest, XGBoost ,ANN, CNN, RNN, LSTM, GRU, MySQL , Ms excel, Microsoft office , NLP , Streamlit etc.

EDUCATION

Bachelor's Degree –Indian Institute of Technology, Patna
Patna (2023 – 2026)
Computer Science and Data Analytics

CERTIFICATIONS

Pandas Course has been completed on Kaggle.

Data Visualization has been completed on Kaggle

ACHIEVEMENTS

Currently a member of the AI/ML wing in a technology club at IIT Patna