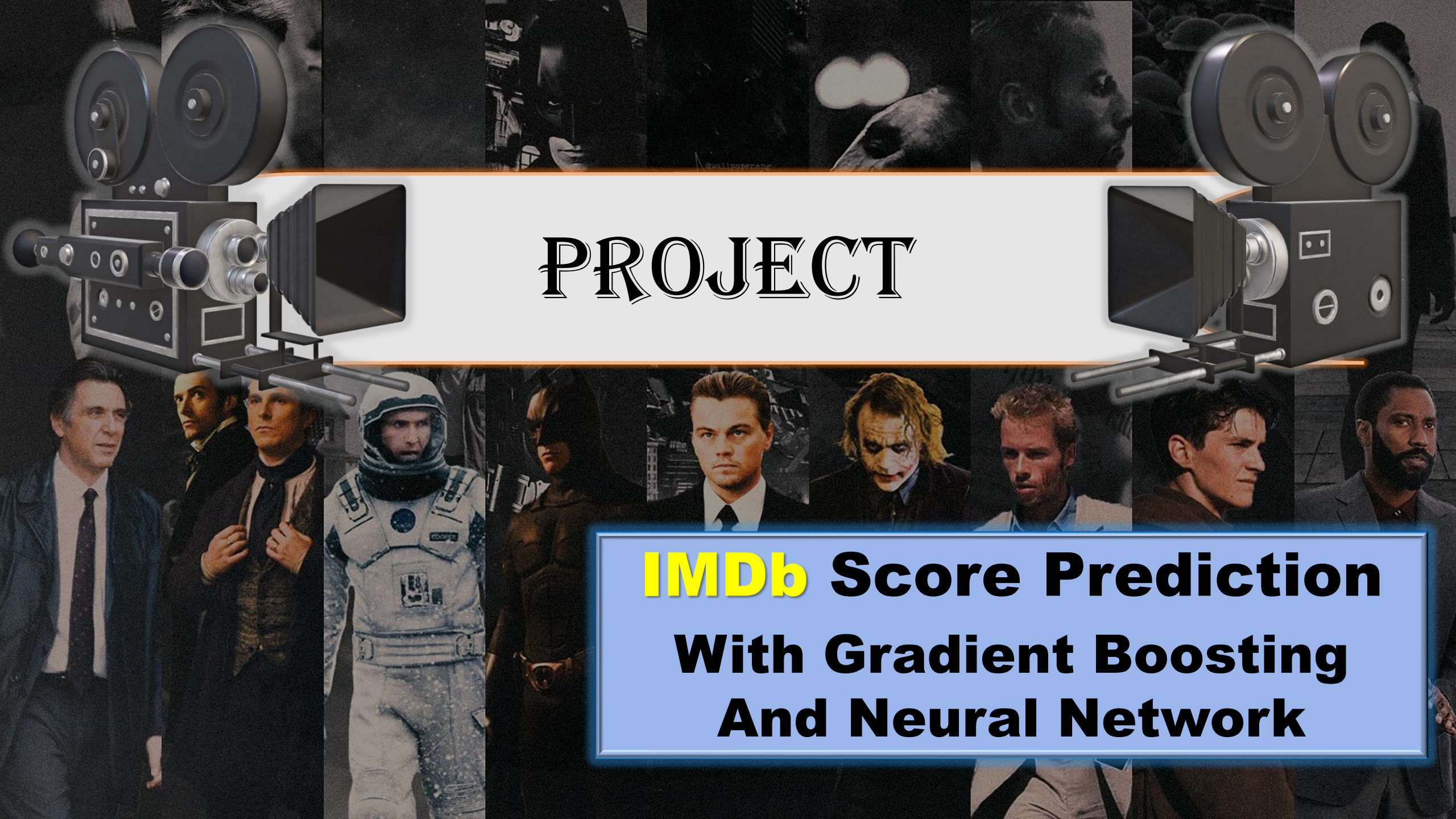

PROJECT
IMDb Score Prediction
With Gradient Boosting
And Neural Network

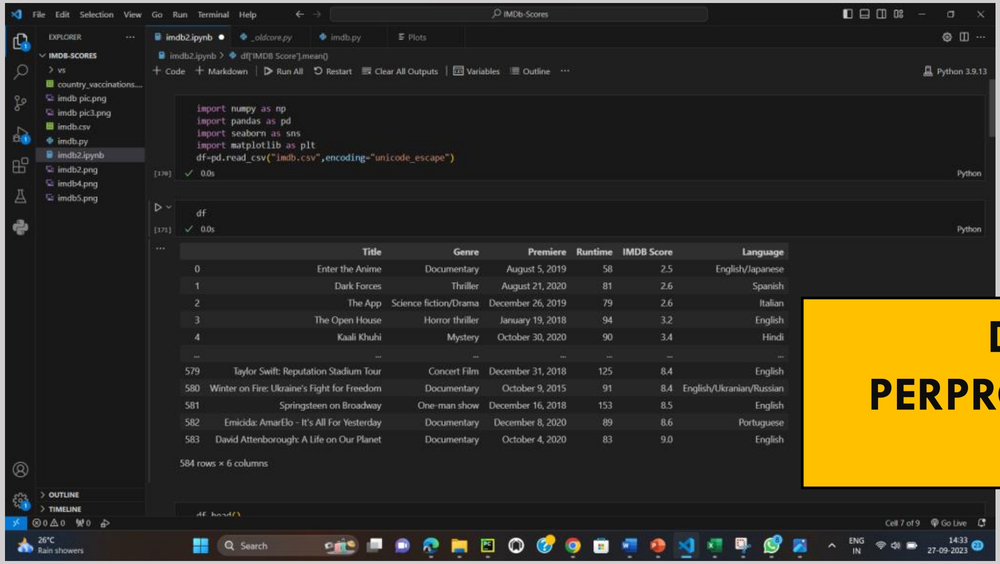
Develop a machine learning model to predict the IMDb Scores of the movies available on Films Based in their genre, premiere date, runtime and language . The model aims to accurately finds the popularity of the movies to the assist users in discovering highly rated films that align with their preferences

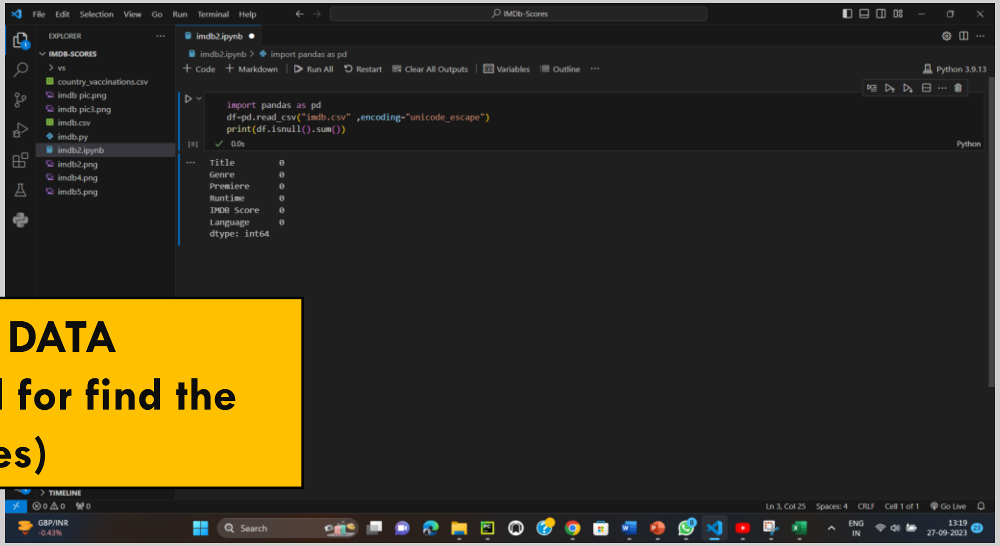
Design the project based on :

* Data Source
* Data Preprocessing
* Feature Engineering
* Model Selection
* Model Training
* Evaluation

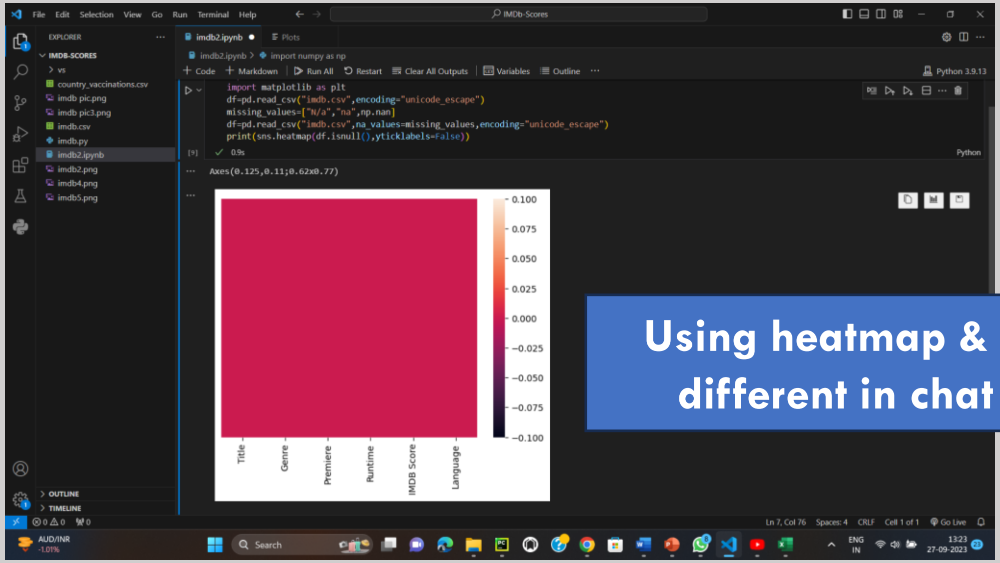
Main algorithms & ML are :

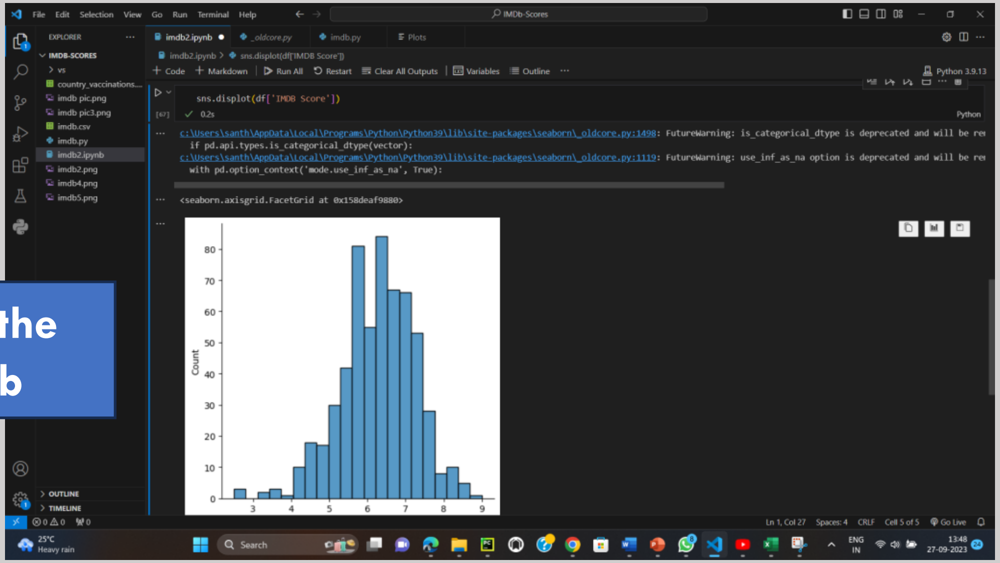
linear Regression ,Random Forest Regression to Predict IMDb Scores .Train the selected model using preprocessing data Regression metrics like MAE ,MSE,R-squared,Gradient Boosting and Neural Network.





DATA SOURCE & DATA PERPROCESSING (used for find the missing values)

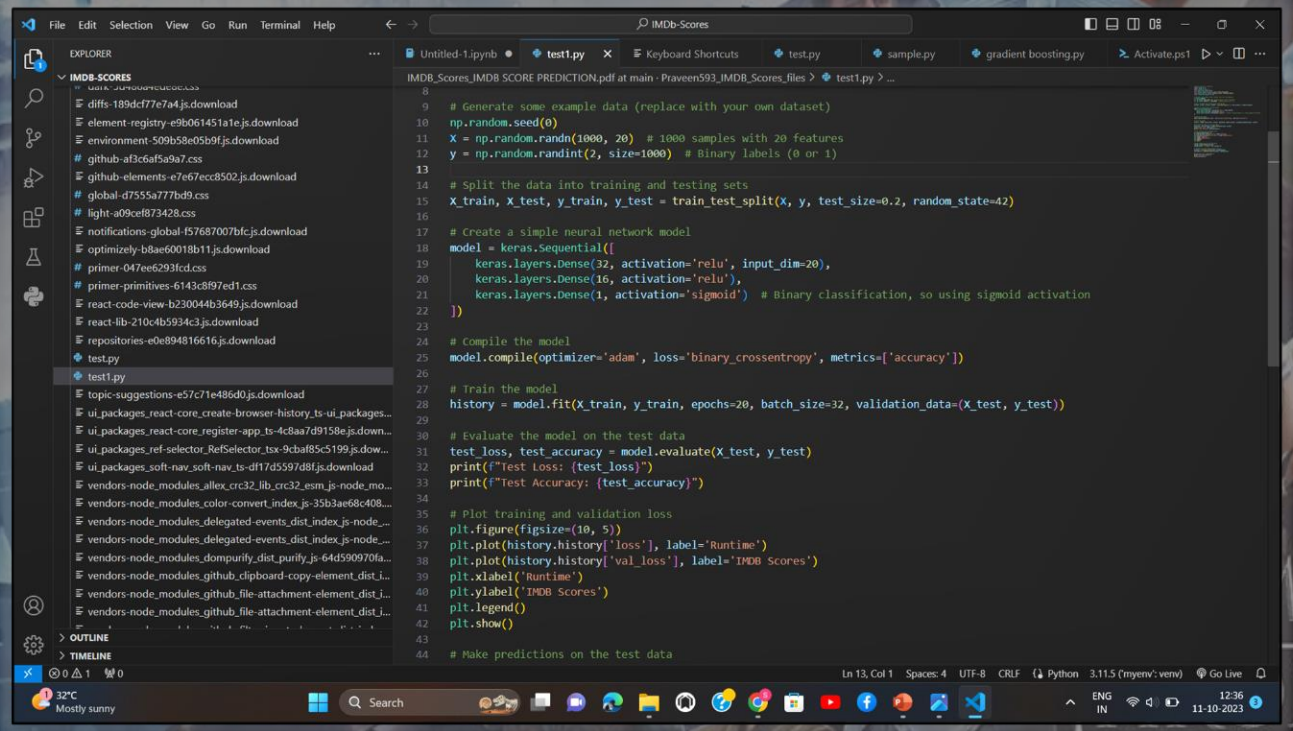


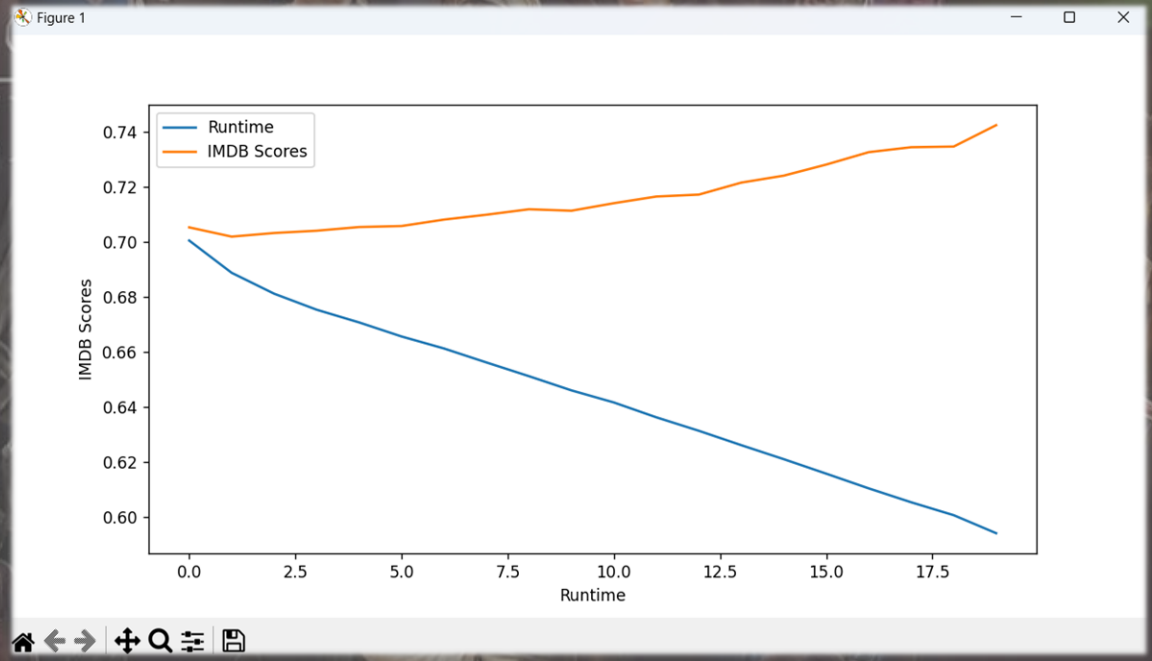


Using heatmap & displot can find the different in chat and predict IMDb

NEURAL NETWORKING

- Neural Networking is an ensemble learning technique that combines the predictions of several weak learners to create a strong predictive model.
- Neural Networking,with its iterative learning approach, stands as a powerful tool for predictive modeling, providing accurate results across diverse dataset





- **Hyperparameter Tuning:** Proper tuning of hyperparameters is crucial for optimal performance.
- **Potential for Overfitting:** Care must be taken to avoid overfitting, especially if the weak learners are too complex.

Key Components For Gradient Boosting

- **Weak Learners**: Typically shallow decision trees are used.
- **Boosting**: Models are built sequentially, and each subsequent model corrects errors made by the previous ones.

Use Cases For Gradient Boosting

- **Commonly Applied**: Used in various domains, including finance, healthcare, and Kaggle competitions.

Key Components For Neural Network

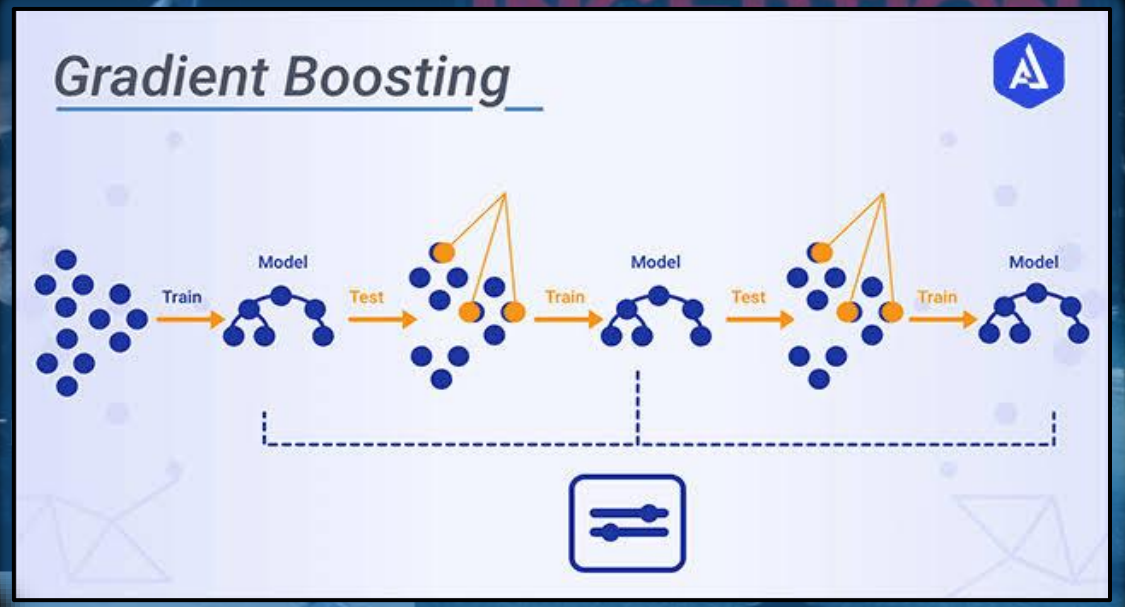
- **Neurons**: Basic computational units that process information.
- **Layers**: Organized in input, hidden, and output layers.
- **Activation Functions**: Determine the strength of connections between neurons.

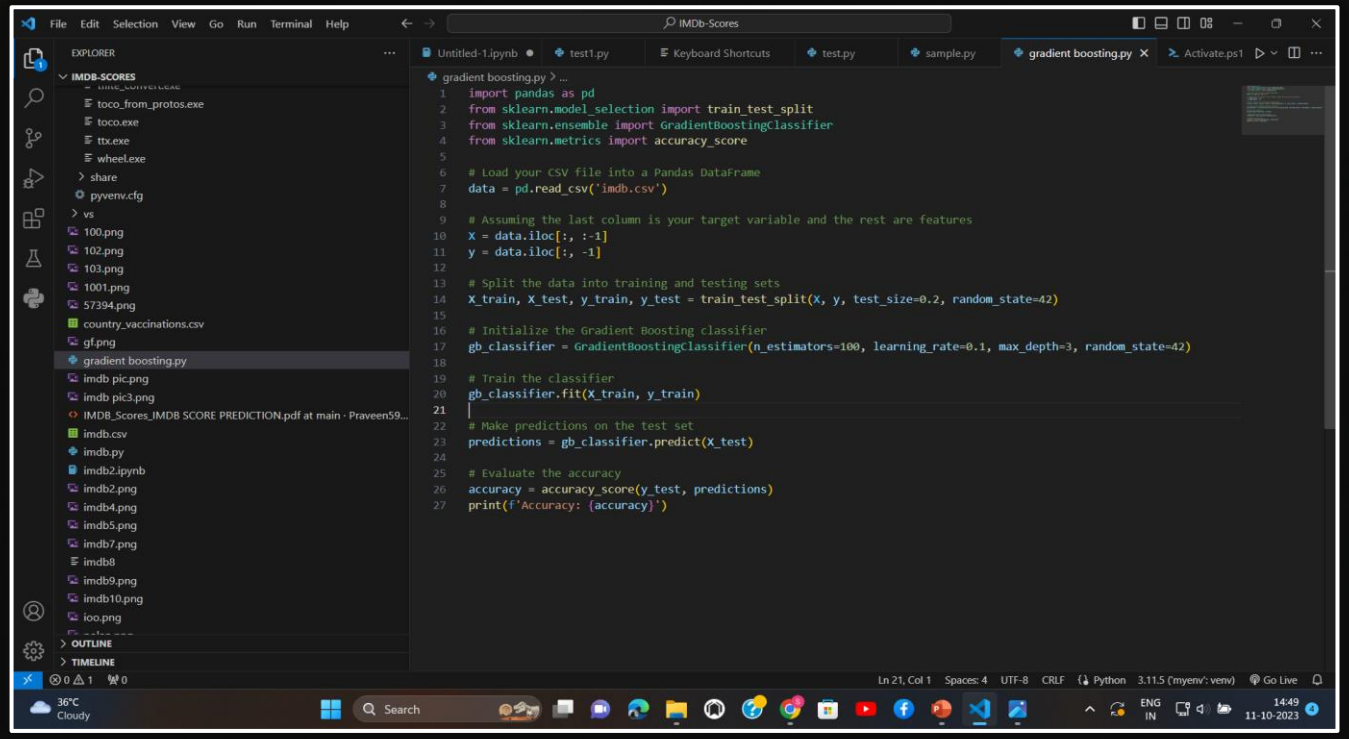
Use Cases For Gradient Boosting

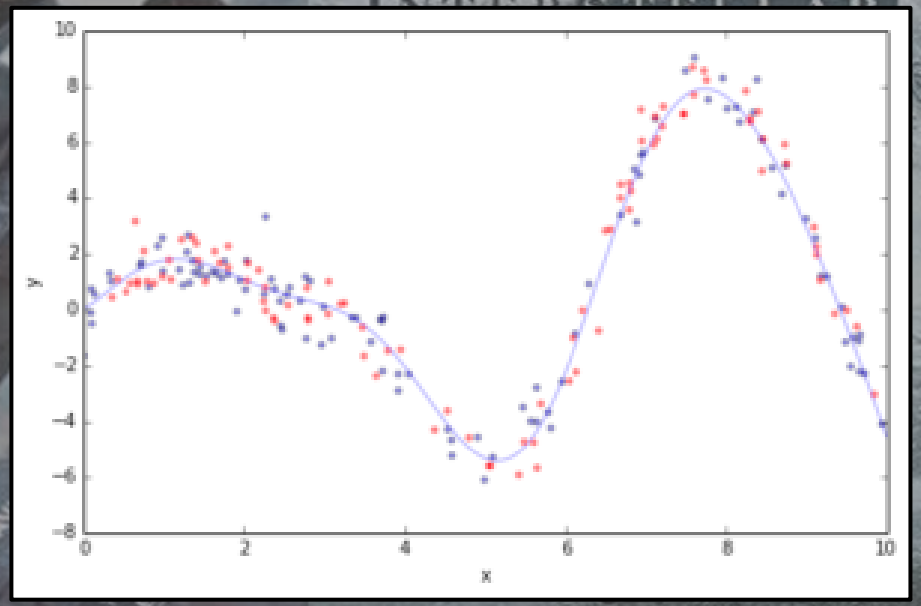
- **Image and Speech Recognition**: Neural Networks excel in tasks like image and speech recognition.

GRADIENT BOOSTING

- Gradient Boosting is an ensemble learning technique that combines the predictions of several weak learners to create a strong predictive model.
- Gradient Boosting, with its iterative learning approach, stands as a powerful tool for predictive modeling, providing accurate results across diverse datasets.







THANK YOU