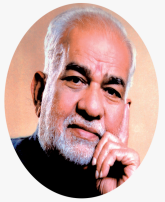
BVRIT HYDERABAD

College of Engineering for Women



Celestial Dragon

Team No: 1

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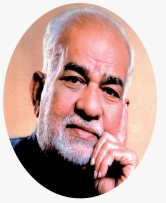
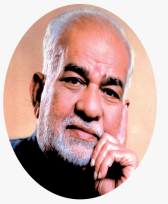


AGENDA

- Problem statement
- Python Packages used
- Types of Algorithm used
- Explain each algorithm
- Output and graph
- Comparison table
- Execute the code



Problem Statement

The Celestial Dragon is an interstellar passenger liner. With almost 13,000 passengers on board, the vessel set out on its maiden voyage transporting emigrants from our solar system to three newly habitable exoplanets orbiting nearby stars.While rounding the Celestial Dragon collided with a space-time anomaly that impacted almost half of the passengers transport to an alternate dimension! Our task is to predict whether a passenger was transported to an alternate dimension during this collision.

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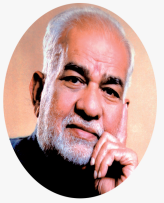
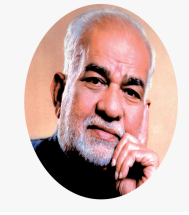


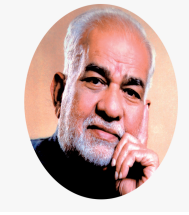
Python Packages used

- numpy
- pandas
- sklearn
- seaborn
- matplotlib.pyplot
- joblib
- xgboost



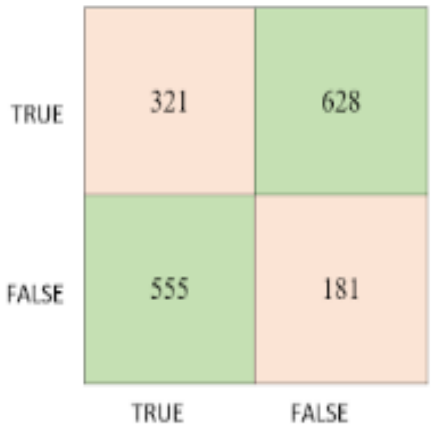
Algorithm

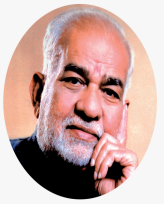
- Decision Tree
- Support Vector Machine
- XGBoost
- Logistic Regression
- AdaBoost
- Gaussian Naive Bayes



Decision Tree

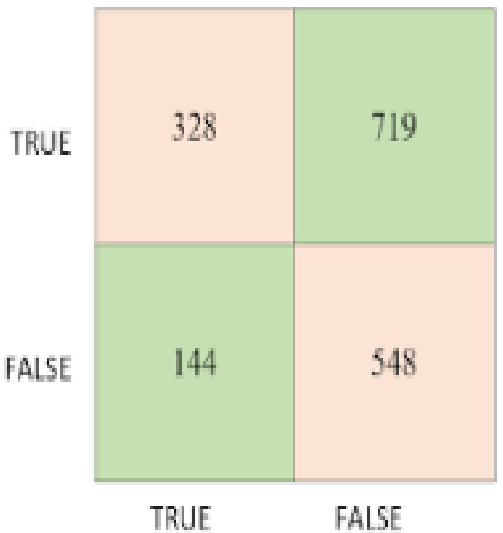
- Decision trees are a popular machine learning algorithm used for classification and regression tasks. The reason they are often used to find accuracy is that they are easy to interpret and understand.
- Accuracy : 73.87
- Confusion matrix :

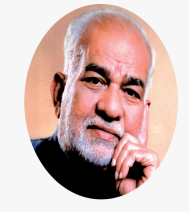




Support Vector Machine

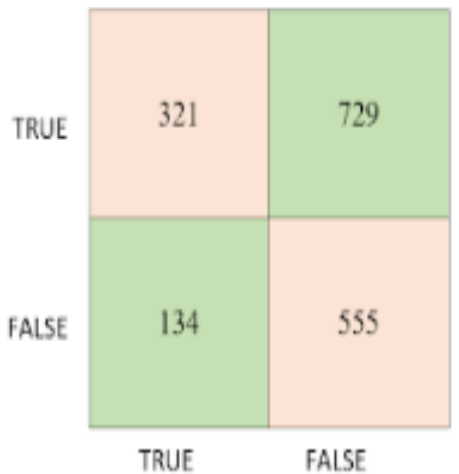
- SVM (Support Vector Machines) is a popular machine learning algorithm that can be used for classification or regression tasks. One of the reasons SVM is often used in machine learning is because it can achieve high accuracy on a variety of datasets.
- Accuracy : 73.84
- Confusion matrix :



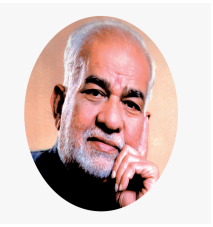


XGBoost

- XGBoost is a popular machine learning algorithm used for classification and regression tasks, similar to decision trees.This is often used to find accuracy that can produce highly accurate models.
- Accuracy : 73.83

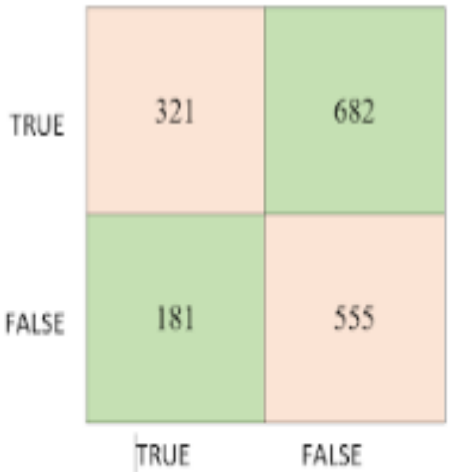


- Confusion matrix :

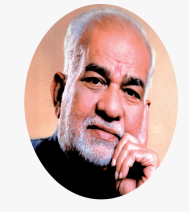


Logistic Regression

- Logistic regression is a popular machine learning algorithm used for binary classification tasks, where the goal is to predict a binary output variable (e.g., 0 or 1) based on one or more input variables.
- Accuracy : 72.38

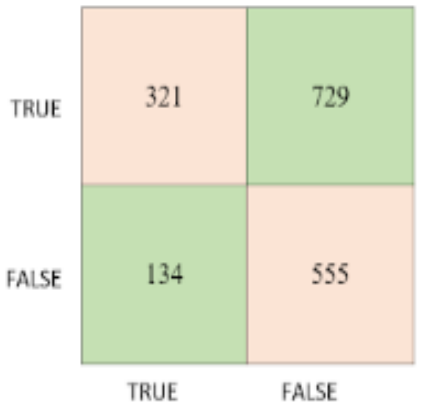


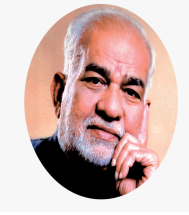
- Confusion matrix :



AdaBoost

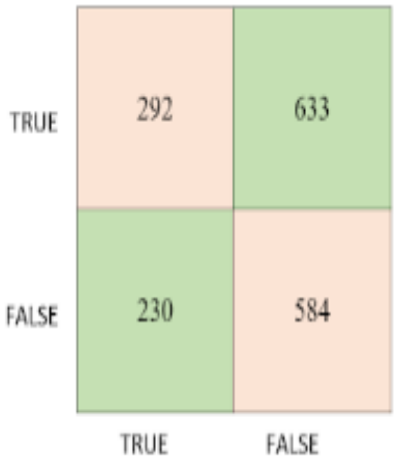
- Adaboost (short for "Adaptive Boosting") is a popular machine learning algorithm used for classification and regression tasks.This can produce highly accurate models.
- Accuracy : 72.13
- Confusion matrix :



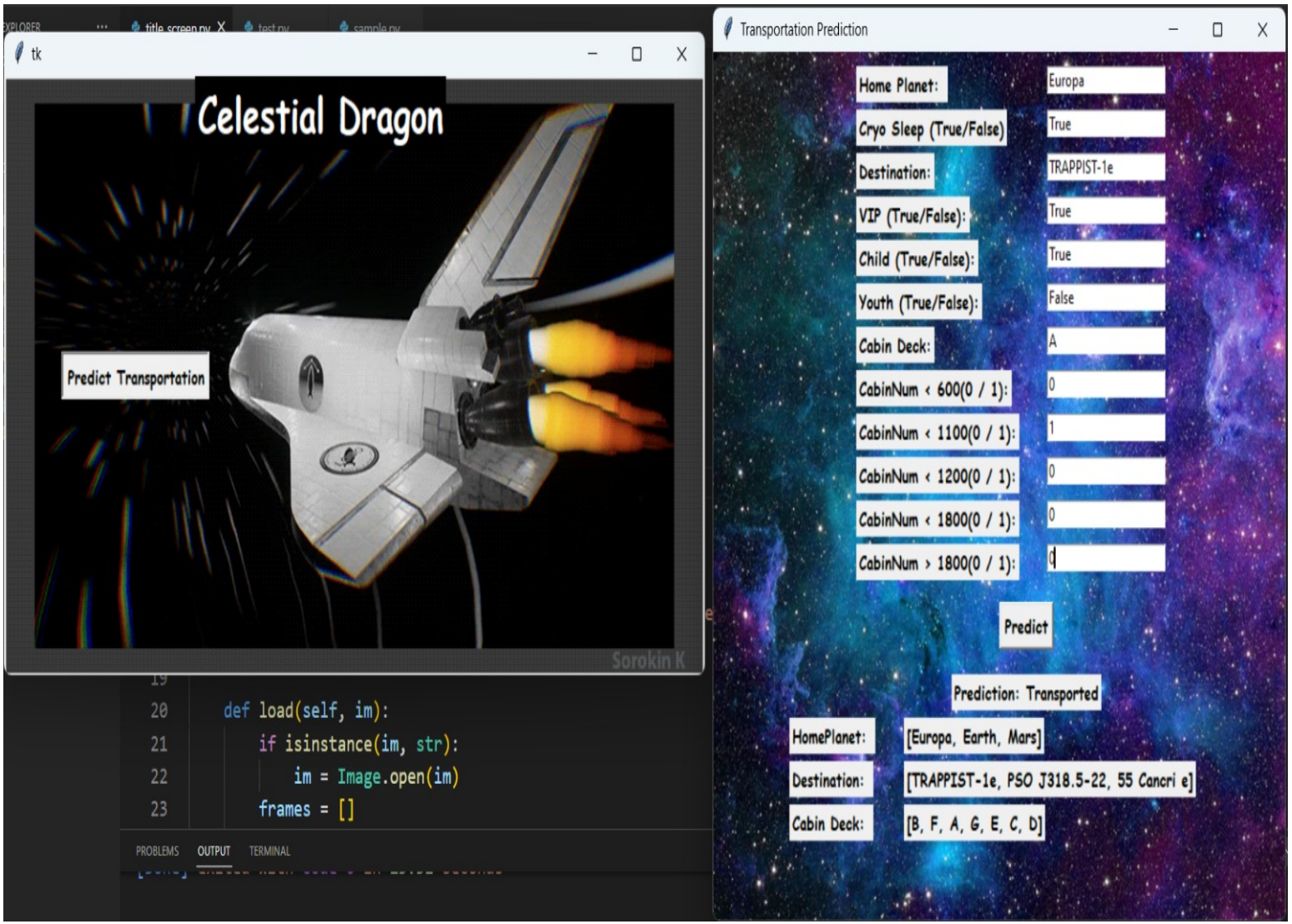


Gaussian Naive Bayes

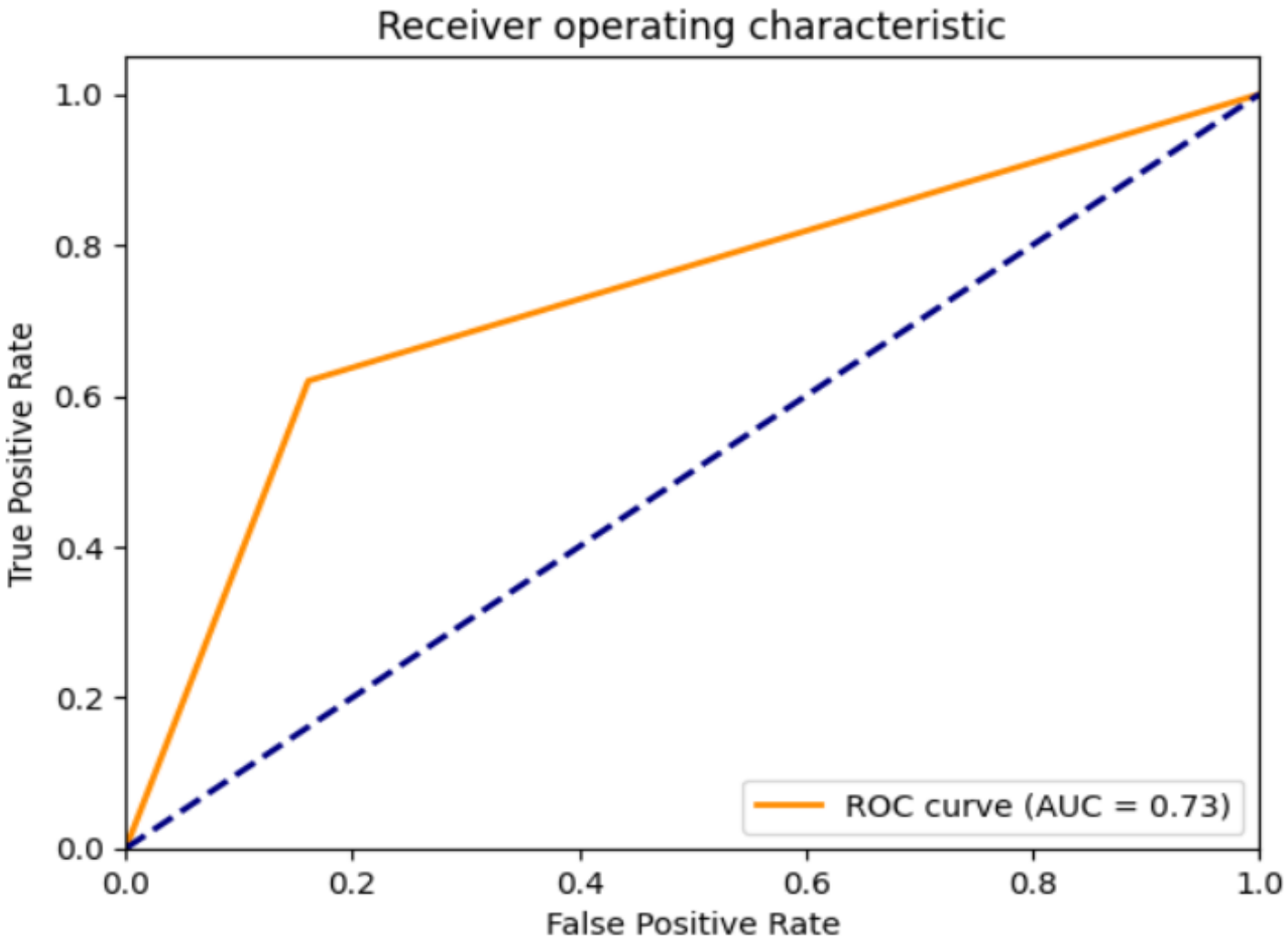
- Naive Bayes is a popular machine learning algorithm used for classification tasks, where the goal is to predict the class of a given input based on its features.
- Accuracy : 70.3
- Confusion matrix :

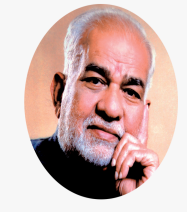


Output


tk
Celestial Dragon
Predict Transportation
Sorokin K
def load(self, im):
if isinstance(im, str):
im = Image.open(im)
frames = []
PROBLEMS
OUTPUT
TERMINAL
Transportation Prediction
Home Planet:
Europa
Cryo Sleep (True/False)
True
Destination:
TRAPPIST-1e
VIP (True/False):
True
Child (True/False):
True
Youth (True/False):
False
Cabin Deck:
A
CabinNum < 600(0 / 1):
0
CabinNum < 1100(0 / 1):
1
CabinNum < 1200(0 / 1):
0
CabinNum < 1800(0 / 1):
0
CabinNum > 1800(0 / 1):
0
Predict
Prediction: Transported
HomePlanet:
[Europa, Earth, Mars]
Destination:
[TRAPPIST-1e, PSO J318.5-22, 55 Cancri e]
Cabin Deck:
[B, F, A, G, E, C, D]

Graph


Receiver operating characteristic
True Positive Rate
False Positive Rate
0.0
0.2
0.4
0.6
0.8
1.0
ROC curve (AUC = 0.73)



Comparison Table

	Model	Score
3	Decision Tree	73.870000
0	Support Vector Machines	73.840000
5	XG Boost	73.835538
1	Logistic Regression	72.380000
4	AdaBoost	72.130000
2	Naive Bayes	70.300000

Execute the code

https://1e1a9883e62a1ee051.gradio.live/

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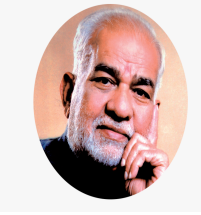

THANK YOU