# Decision Tree Implementation in Python

import numpy as np

import pandas as pd

from sklearn.model\_selection import train\_test\_split

from sklearn.tree import DecisionTreeClassifier

from sklearn.metrics import accuracy\_score, classification\_report, confusion\_matrix

# Load dataset

data = pd.read\_csv('data.csv') # Replace 'data.csv' with your dataset

# Preprocess data

X = data.drop('target', axis=1) # Replace 'target' with your target column

y = data['target']

# Split the dataset into training and testing sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

# Create a Decision Tree Classifier

clf = DecisionTreeClassifier()

# Train the model

clf.fit(X\_train, y\_train)

# Make predictions

y\_pred = clf.predict(X\_test)

# Evaluate the model

print("Accuracy:", accuracy\_score(y\_test, y\_pred))

print("Confusion Matrix:\n", confusion\_matrix(y\_test, y\_pred))

print("Classification Report:\n", classification\_report(y\_test, y\_pred))

