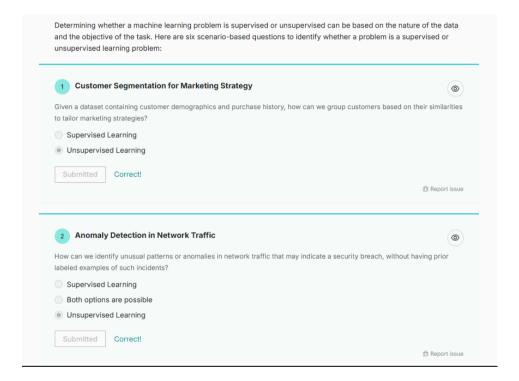
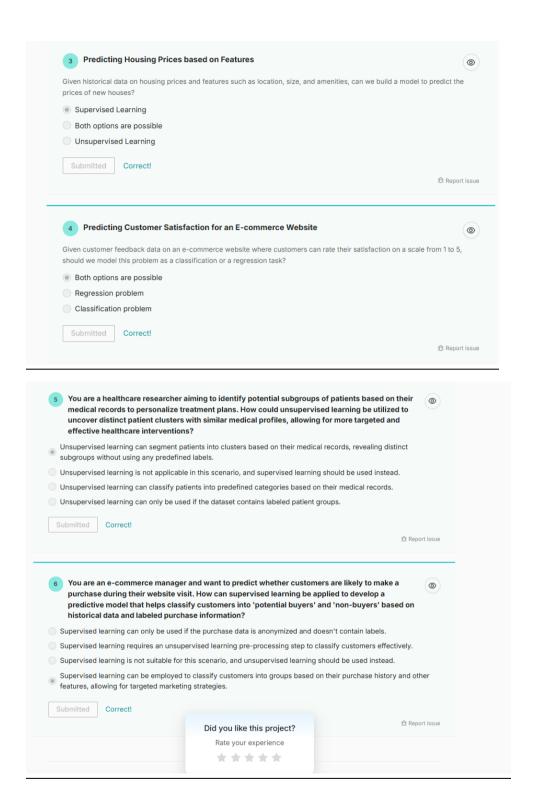
DATAWARS ASSIGNMENT

LEARNING AREA: MACHINE LEARNING

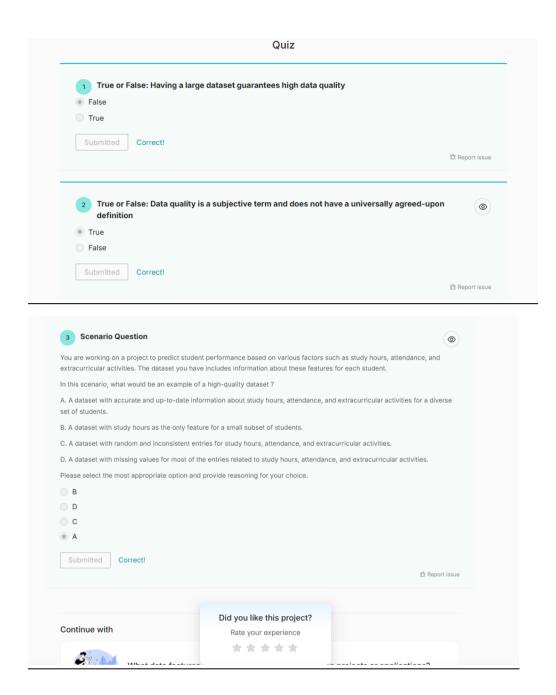
SHRINIVASAN M

PROJECT 1: KNOWLEDGE TEST

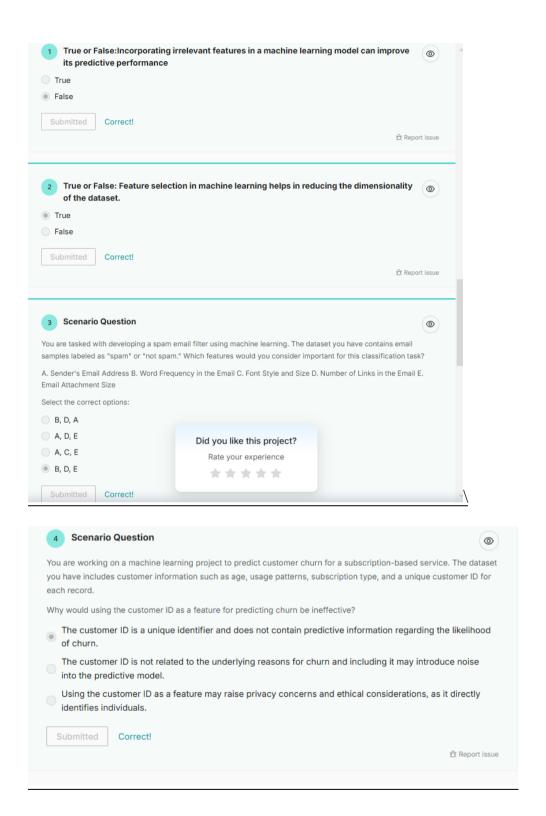




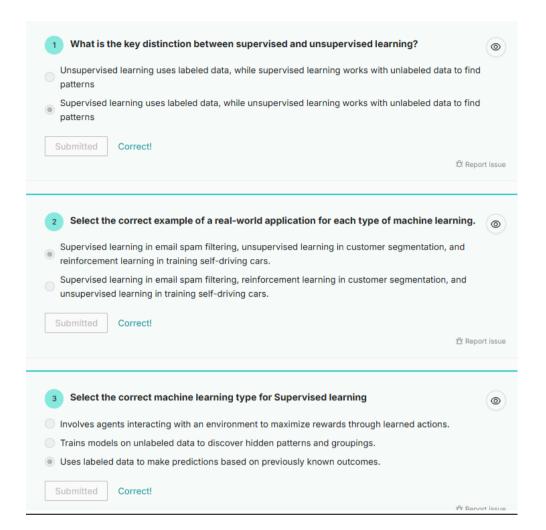
PROJECT 2: HOW MUCH DATA IS NEEDED FOR MACHINE LEARNING



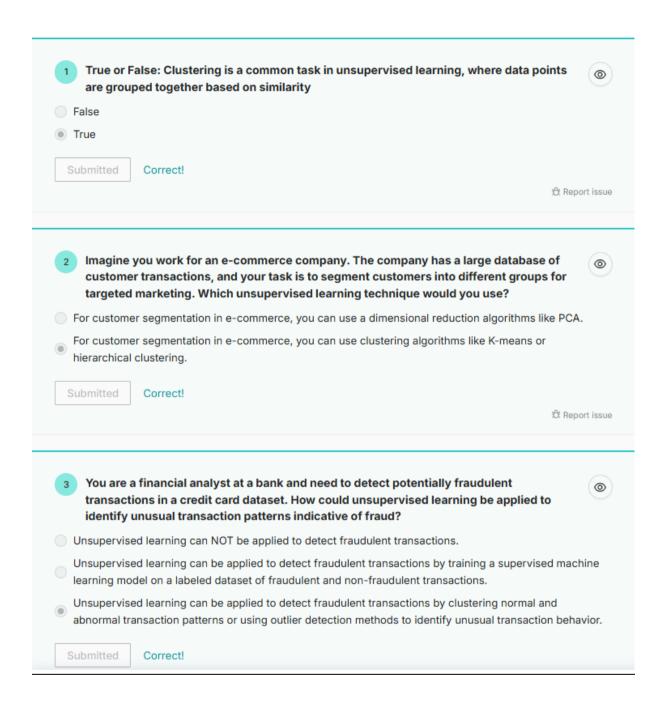
PROJECT 3: WHAT DATA FEATURES ARE IMPORTANT FOR MACHINE LEARNING PROJECTS OR APPLICATIONS



PROJECT 4: TYPES OF MACHINE LEARNING SYSTEMS



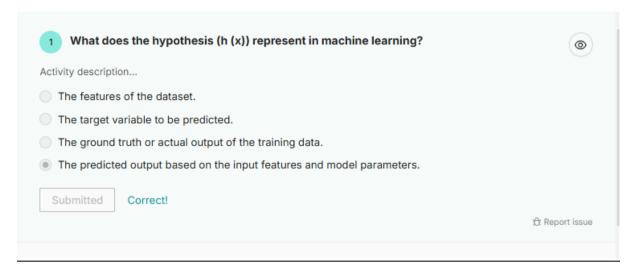
PROJECT 5: TYPES OF UNSUPERVISED LEARNING



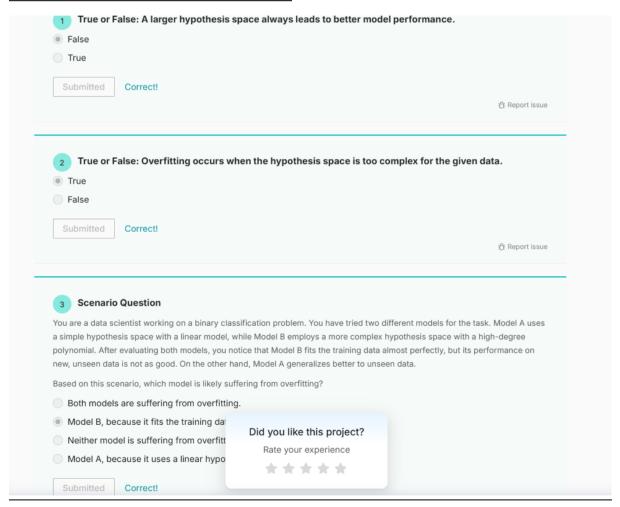
PROJECT 6: TYPES OF SUPERVISED LEARNING

| 1 What is the difference between supervised and unsupervised machine learning?. Which of the following statements are true? | | | | |
|--|--|--|--|--|
| Supervised learning is used when we want to predict a certain outcome | from a given input. | | | |
| Supervised learning problems can be grouped into clustering and association. The goal for unsupervised learning is to model the underlying structure or distribution in the data. | | | | |
| | | | | There are two major types of supervised learning problems, called clustering and regression. |
| Submitted Correct! | | | | |
| | :£: Report iss | | | |
| | | | | |
| | | | | |
| 2 Select which of the following scenarios are regression problems | s. | | | |
| Given a tweet, determine whether or not it contains text against or on favor | vor for a presidential candidate. | | | |
| Predict whether a user will churn from the service. | | | | |
| Predict the score that a student will achieve in an exam whose grade car | n be 0.1, 2,, 10 | | | |
| Predict how much a company will spend on electricity the next semester | r. | | | |
| Submitted Correct! | | | | |
| Submitted Correct! | A Danastian | | | |
| | Report iss | | | |
| Colort which of the following coopering are electification problem | lome | | | |
| Select which of the following scenarios are classification probl Predict the prices of a house in Boston based on zipcode, neighbourhood | | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhoot town, etc | | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhoot town, etc Impact of blood alcohol content on coordination | od, the per capita crime rate by | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhoot town, etc | od, the per capita crime rate by | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the characters | od, the per capita crime rate by | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. | od, the per capita crime rate by | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not | od, the per capita crime rate by | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not | od, the per capita crime rate by eristics of what constitutes spam | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not | od, the per capita crime rate by eristics of what constitutes spam | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! | eristics of what constitutes spam 證 Report is | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! 4 Suppose you want to develop a supervised machine learning mach | eristics of what constitutes spam 證 Report is | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! 4 Suppose you want to develop a supervised machine learning machine supervised will fly or not. Which of the following statements are | eristics of what constitutes spam 證 Report is | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! 4 Suppose you want to develop a supervised machine learning means superhero will fly or not. Which of the following statements are A classification model provide the best approach. | eristics of what constitutes spam 證 Report is | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! 4 Suppose you want to develop a supervised machine learning machine superhero will fly or not. Which of the following statements are A classification model provide the best approach. This is not a machine learning problem | eristics of what constitutes spam 證 Report is | | | |
| Predict the prices of a house in Boston based on zipcode, neighbourhood town, etc Impact of blood alcohol content on coordination An algorithm is trained to recognize spam email by learning the character vs non-spam email. Determine whether a customer is likely to purchase more items or not Submitted Correct! 4 Suppose you want to develop a supervised machine learning me superhero will fly or not. Which of the following statements are A classification model provide the best approach. This is not a machine learning problem We'll use unlabeled examples to train the model. | eristics of what constitutes spam 證 Report is | | | |

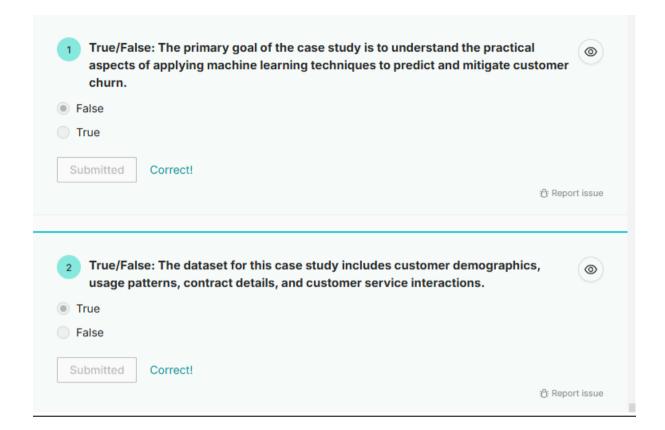
PROJECT 7: WHAT IS A HYPOTHESIS IN MACHINE LEARNING?



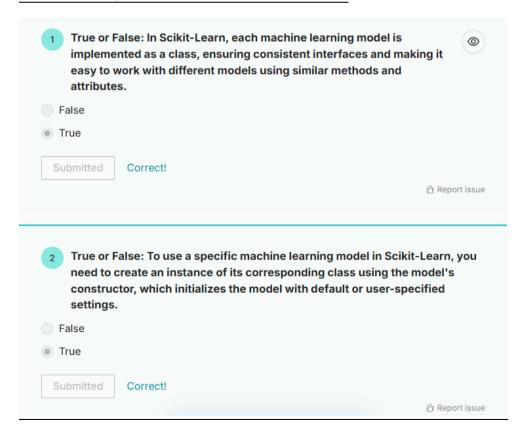
PROJECT 8: HYPOTHESIS SPACE



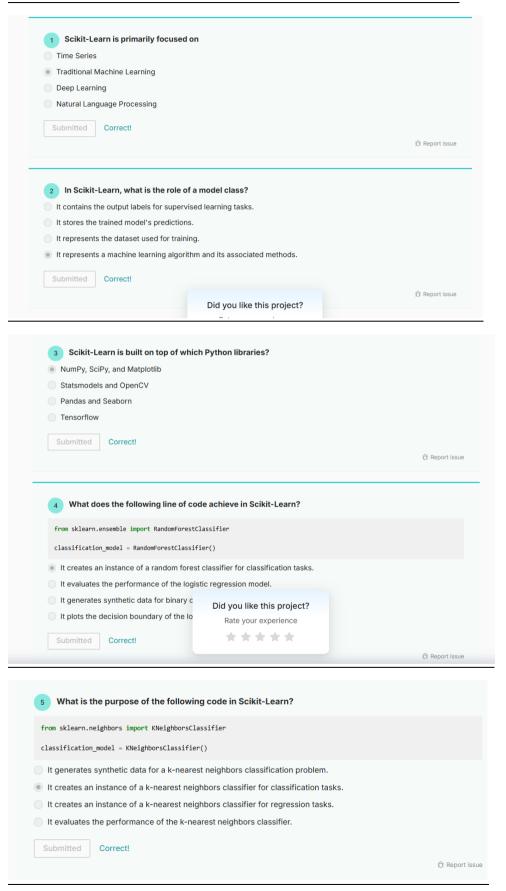
PROJECT 9: REAL CASE OF STUDY



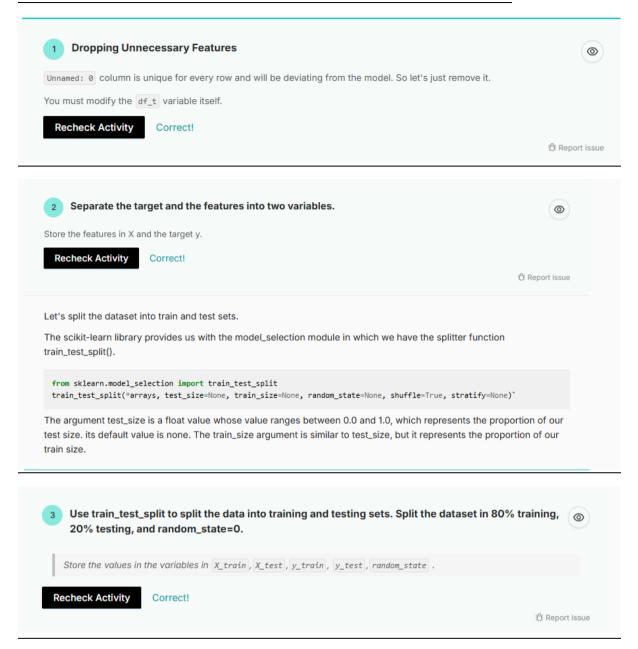
PROJECT 10: INTRO TO SCIKIT LEARN



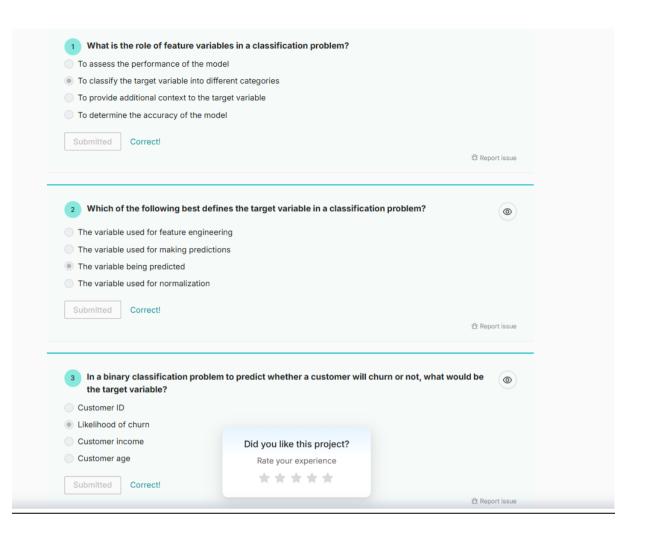
PROJECT 11: INTRO TO SCIKIT LEARN ASSESSMENT

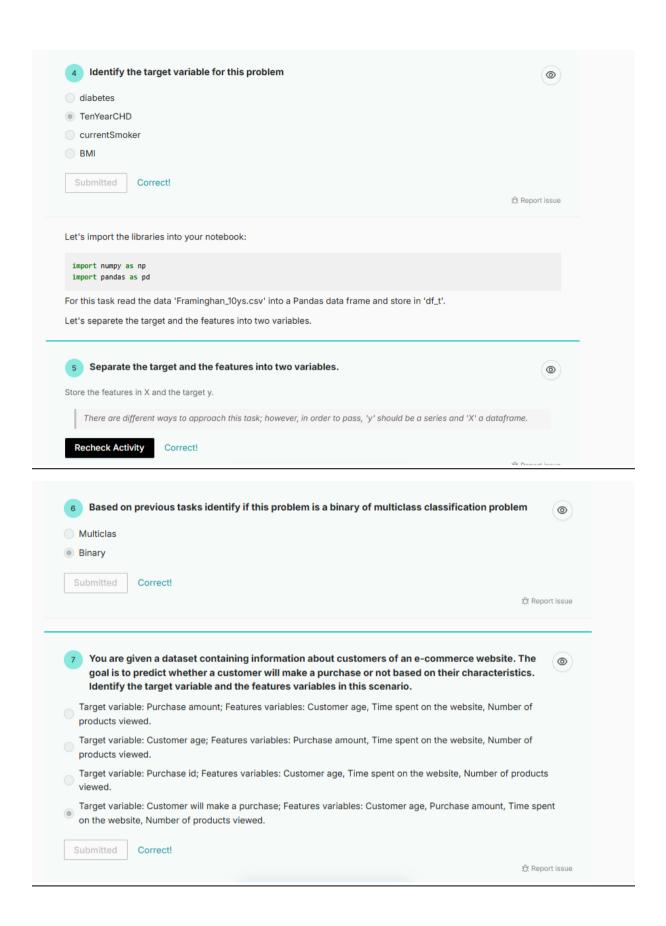


PROJECT 12: TEST AND TRAIN SET FOR CLASSIFICATION

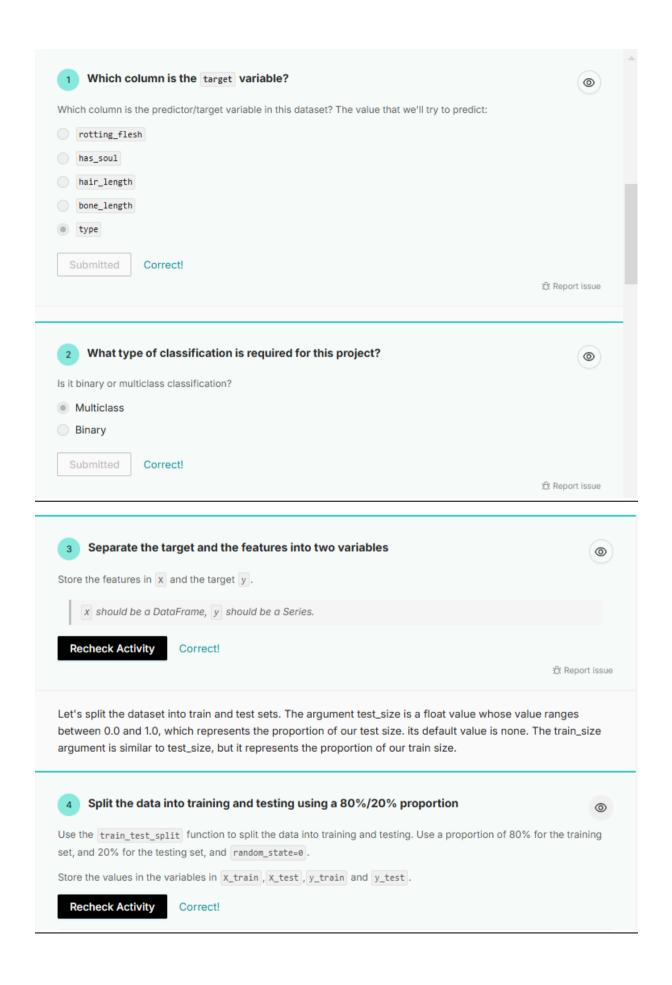


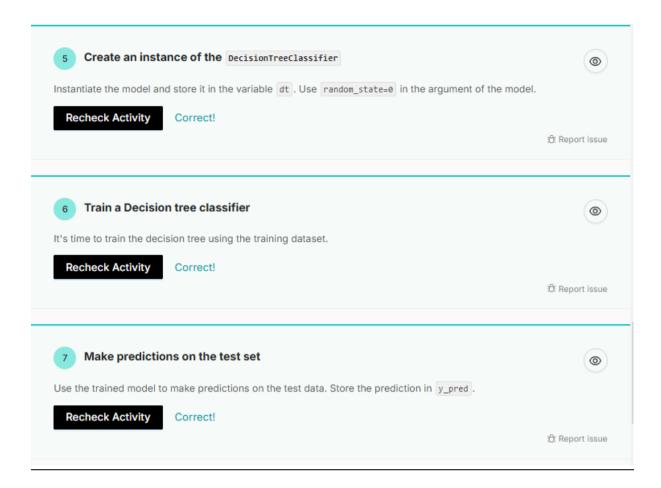
PROJECT 13: UNDERSTANDING TARGET AND FEATURES FOR CLASSIFICATION



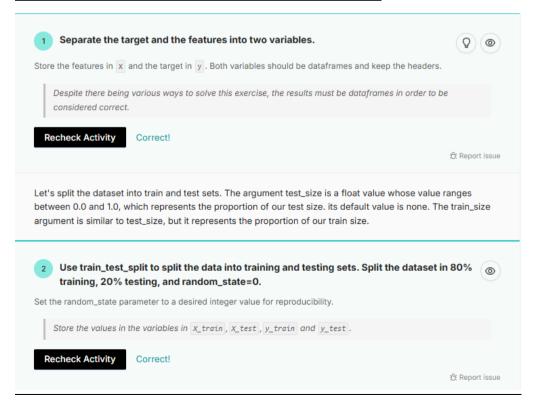


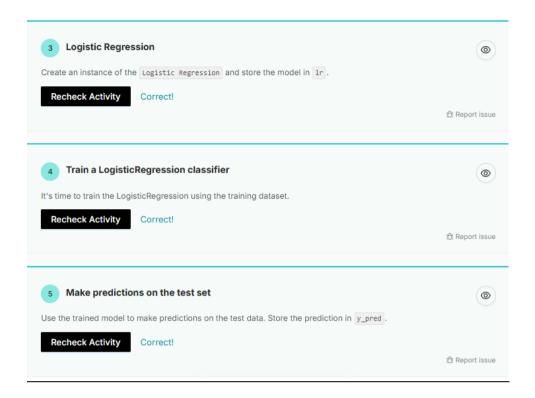
PROJECT 14: CAN YOU CLASSIFY THE MONSTERS THAT ARE HAUNTING?



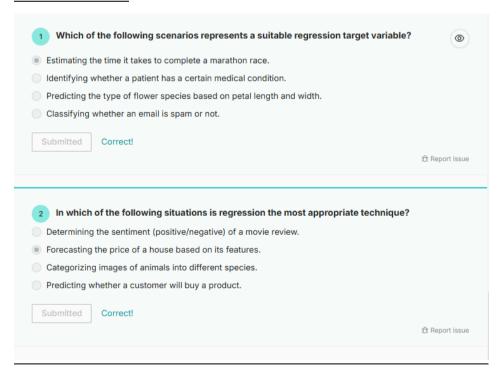


PROJECT 15: HAPPINESS CLASSIFICATION

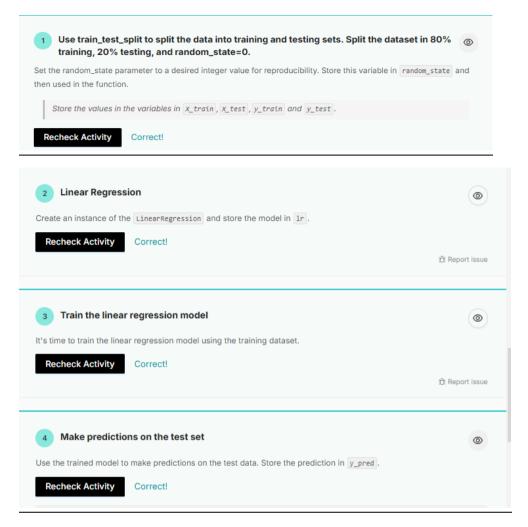




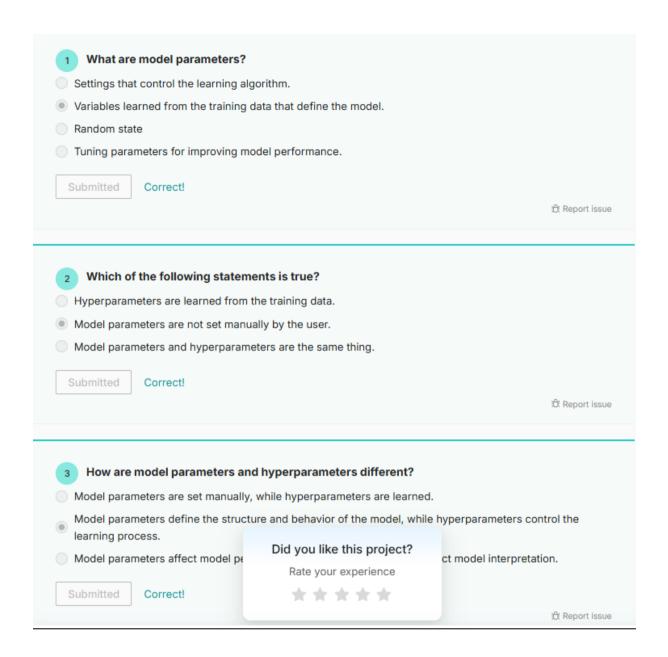
PROJECT 16: UNDERSTANDING TARGET AND FEATURES FOR REGRESSION



PROJECT 17: LINEAR REGRESSION



PROJECT 18: DIFFERENCE BETWEEN MODEL PARAMETER AND HYPERPARAMETER



PROJECT 19: MODEL USAGE

| To fine-tune the model on a different set of hyperparameters. To visualize the decision boundaries of the model. To make predictions on new data efficiently without retraining the model. To train a model from scratch on a new dataset. Submitted Correct! Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! The Report issue 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Submitted Correct! Did you like this project? Rate your experience Submitted Correct! | To fine-tune the model on a differen | nt set of hypernarameters | | |
|---|--|--|-----------------|--|
| To make predictions on new data efficiently without retraining the model. To train a model from scratch on a new dataset. Submitted Correct! Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! The Report Issue 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| To train a model from scratch on a new dataset. Submitted Correct! Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! Report issue What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| Submitted Correct! 2 Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| 2 Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| 2 Which library is used to save and load the pre-trained model in the lab? Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! \$\frac{1}{2}\$ Report issue 1 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | Submitted Correct! | | | |
| Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! TReport issue 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | ∄; Report issue | |
| Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! TReport issue 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| Matplotlib Scikit-Learn Joblib NumPy Submitted Correct! The Report issue 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| Scikit-Learn Joblib NumPy Submitted Correct! 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | 2 Which library is used to save | and load the pre-trained model in the lab? | | |
| Joblib NumPy Submitted Correct! Report issue What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | Matplotlib | | | |
| NumPy Submitted Correct! 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | Scikit-Learn | | | |
| Submitted Correct! 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | Joblib | | | |
| 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | NumPy | | | |
| 3 What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | 0.1-7-1 | | | |
| What type of model is used in the lab for the linear regression example? Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | Submitted Correct! | | 9 Page 1 | |
| Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | TReport issue | |
| Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| Linear Regression Logistic Regression Decision Tree Did you like this project? Rate your experience | | | | |
| Logistic Regression Did you like this project? Rate your experience | | | | |
| Decision Tree Decision Tree Rate your experience | 3 What type of model is used in | the lab for the linear regression example? | | |
| Decision Tree Rate your experience | | the lab for the linear regression example? | | |
| | Linear Regression | | | |
| Submitted Correct! | Linear Regression Logistic Regression | Did you like this project? | | |
| Submitted Correct! $\uparrow \uparrow \uparrow \uparrow \uparrow$ | | the lab for the linear regression example? | | |
| | ear Regression gistic Regression cision Tree | Did you like this project? Rate your experience | | |

PROJECT 20: INTRODUCTION TO FEATURE ENGINEERING WITH SIMULATED DATASET

Encoding Categorical Variables 0 Use get_dummies function to convert categorical variables into numerical representations that can be understood by machine learning models. Store the dataframe with the encoded categorical variables and the numerical one in $\boxed{\mathtt{df_encoded}}$. Recheck Activity Correct! A Report issue 2 Handling Missing Values 0 Identify and handle missing values in the dataset df_encoded . This can be done by filling missing values with mean, median, or mode, or by removing rows or columns with missing values. Select the correct code to replace the missing values for the mean value. df_filled = df_encoded.fill(df_encoded.mean()) df_filled = df.fillna(df_encoded.mean()) o df_filled = df_encoded.fillna(df_encoded.mean()) df_filled = df_encoded.fillna(df_encoded.median()) Submitted Correct! Report issue 3 Creating New Features 0 In this activity, we are adding three new derived features to the DataFrame df_filled . The first line calculates the squared value

In this activity, we are adding three new derived reatures to the DataFrame df_filled. The first line calculates the squared value of Numeric and assigns it to the new column | Feature1_squared |. The second line calculates the cubed value of | Numeric | and assigns it to the new column | Feature2_cubed |. Finally, the third line calculates the natural logarithm of | Numeric | using np.log() function and assigns it to the new column | Feature3_log |.

The activity show Runtime warning because we can only take log of positive values but the dataset also has some null, 0 or negative values.

Recheck Activity

Correct!