

HUBER REGRESSION

The code uses **Huber Regression** to predict the length of a product based on its type. Here are the details:

- Load data: The code first loads the train and test datasets using pandas ``read_csv()`` function.
- Combine train and test data: The train and test data are concatenated into one dataframe using the pandas ``concat()`` function.
- Replace NaN values with 0: The missing values in the dataframe are replaced with 0 using the pandas ``fillna()`` method.
- Select features: The code selects the "PRODUCT_TYPE_ID" column as the feature for both the train and test data. The "PRODUCT_LENGTH" column is selected as the target variable for both datasets as well.
- Train Huber Regression model: The Huber Regression model is trained using the training data and the ``fit()`` method of the ``HuberRegressor`` class from scikit-learn.
- Make predictions on test data: The model is used to make predictions on the test data using the ``predict()`` method.
- Calculate score: The mean absolute percentage error between the predicted and actual values is calculated using the ``mean_absolute_percentage_error()`` function from scikit-learn. The score is then printed to the console.
- Create submission file: The predicted values are saved to a CSV file with the "PRODUCT_ID" column from the test data using the pandas ``DataFrame()`` and ``to_csv()`` methods.

Overall, the code uses a simple feature and trains a Huber Regression model to predict the length of a product.