**CUSTOMER SEGMENTATION USING DATA SCIENCE.**

**Implementing a full feature engineering, model training, and evaluation pipeline in a programming language like Python typically involves several steps and libraries. Below is a simplified example of how you can create a basic machine learning project with these components:**

**python**

**# Import necessary libraries**

**import pandas as pd**

**import numpy as np**

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

**from sklearn.ensemble import RandomForestClassifier**

**from sklearn.metrics import accuracy\_score, precision\_score, recall\_score, f1\_score**

**# Step 1: Data Preparation and Feature Engineering**

**# Load your dataset**

**data = pd.read\_csv('your\_data.csv')**

**# Feature engineering - create new features (you can add more feature engineering steps)**

**data['new\_feature'] = data['feature1'] + data['feature2']**

**# Step 2: Model Selection and Training**

**# Split the data into training and testing sets**

**X = data.drop('target', axis=1)**

**y = data['target']**

**X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2)**

**# Choose and train a model (you can try different models and hyperparameters)**

**model = RandomForestClassifier()**

**model.fit(X\_train, y\_train)**

**# Step 3: Model Evaluation**

**# Make predictions**

**y\_pred = model.predict(X\_test)**

**# Evaluate the model**

**accuracy = accuracy\_score(y\_test, y\_pred)**

**precision = precision\_score(y\_test, y\_pred)**

**recall = recall\_score(y\_test, y\_pred)**

**f1 = f1\_score(y\_test, y\_pred)**

**# Print the evaluation metrics**

**print("Accuracy:", accuracy)**

**print("Precision:", precision)**

**print("Recall:", recall)**

**print("F1 Score:", f1)**

**# Step 4: Document and Share Results**

**# You can save these results to a text file or a Jupyter Notebook to document your project.**

**# Additional steps might include hyperparameter tuning, cross-validation, and more extensive feature engineering, depending on your specific project and data.**

**Please note that this is a basic example, and a real machine learning project often involves more complexity and data preprocessing. You should adjust and expand this code according to your specific project's needs, including data cleaning, exploratory data analysis, and more extensive model evaluation. You may also want to consider using machine learning libraries like scikit-learn for more advanced workflows.**

**DATA SET:**

[**https://www.kaggle.com/code/priteepriyadarshini/customer-segmentation-for-marketing?scriptVersionId=148338333&cellId=10**](https://www.kaggle.com/code/priteepriyadarshini/customer-segmentation-for-marketing?scriptVersionId=148338333&cellId=10)

**Acknowledgements**

[**https://datahack.analyticsvidhya.com/contest/janatahack-customer-segmentation/#ProblemStatement**](https://datahack.analyticsvidhya.com/contest/janatahack-customer-segmentation/#ProblemStatement)

**Inspiration**

[**https://datahack.analyticsvidhya.com/contest/janatahack-customer-segmentation/#ProblemStatement**](https://datahack.analyticsvidhya.com/contest/janatahack-customer-segmentation/#ProblemStatement)