 

**Project Title: Classifying The Credit Scores**

**Problem Statement:**

As a data scientist in a global finance company, your objective is to develop a machine learning model that predicts individuals' credit scores based on their financial and credit related information. The company aims to automate and enhance the credit scoring process using intelligent systems.

**Task:**

**1. Dataset Download:**

- Obtain the dataset containing relevant credit-related information.

- Highlight the features, including income, outstanding debt, credit history, etc. - Identify the target variable: `Credit\_Score`.

**2. Data Exploration and Preprocessing:**

- Conduct exploratory data analysis (EDA) to understand the distribution of features and the target variable.

- Handle any missing values, outliers, or data inconsistencies.

- Encode categorical variables if necessary.

- Explore the distribution of the target variable.

**3. Model Selection:**

- Choose suitable machine learning classification models for predicting credit scores. Suggested models include:

- Logistic Regression

- Random Forest Classifier

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- Support Vector Machine (SVM)

- Gradient Boosting Classifier (e.g., XGBoost)

**4. Model Training:**

- Train each selected model using the training dataset.

- Utilize evaluation metrics suitable for classification tasks, such as accuracy, precision, recall, F1 score, and confusion matrix.

**5. Hyperparameter Tuning:**

- Conduct hyperparameter tuning for at least one model using methods like Grid Search or Random Search.

- Explain the chosen hyperparameters and the reasoning behind them. **6. Model Evaluation:**

- Assess the performance of each model on the testing set.

- Discuss the strengths and limitations of each model in the context of credit score classification.

**7. Interpretability:**

- If applicable, explore methods to interpret the model's decisions and understand the factors influencing credit score classifications.

**9. Code Submission:**

- Share well-commented and organized code for each phase of the project. - Submit both the code and comprehensive documentation for review.

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