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Codveda Technologies Internship For ML Task 2: Support Vector Machine(SVM) for Churn Prediction

Dataset-churn-bigml-80.csv

Objectives:

Train an SVM model on a labeled dataset. Use different kernels (linear, RBF) and compare their performance using accuracy, precision, recall, and AUC. Tools: Python, scikit-learn, pandas, matplotlib

Description:

```
[1]: #python libraries
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler, LabelEncoder
from sklearn.svm import SVC
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
from sklearn.metrics import RocCurveDisplay
from mlxtend.plotting import plot_decision_regions
import warnings
warnings.filterwarnings('ignore')
```

```
[2]: df=pd.read_csv(r"C:\Users\DELL\Downloads\Churn Prdiction Data-20250825\churn-bigml-80.csv")
```

```
[3]: df
```

```
[3]:
```

	State	Account length	Area code	International plan	Voice mail plan	Number vmail messages	Total day minutes	Total day calls
0	KS	120	415	No	Yes	25	265.1	110