Smote On Random Forest Classifier

Date	10 July 2024
Team ID	739837
Project Title	Sepsis Survival Minimal Clinical Records
Maximum Marks	5 Marks

```python
from imblearn.over_sampling import SMOTE
from imblearn.under_sampling import RandomUnderSampler
from imblearn.pipeline import Pipeline
from sklearn.ensemble import RandomForestClassifier
```

```python
rus = RandomUnderSampler()
```

```python
smote = SMOTE(sampling_strategy='auto')
```
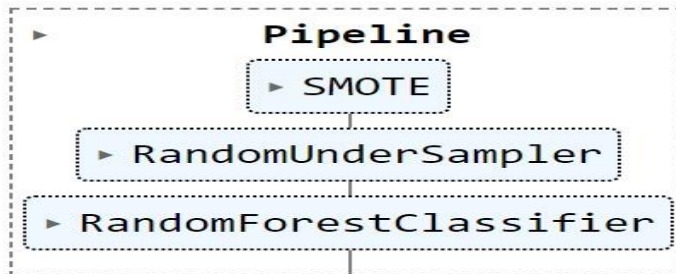
```python
rf_classifier = RandomForestClassifier()
```

```python
pipeline = Pipeline([
    ('somte', smote),
    ('rus',rus),
    ('rf',rf_classifier)
])
```

```python
pipeline.fit(x_train,y_train)
```

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```

```
Pipeline
  ► SMOTE
  ► RandomUnderSampler
  ► RandomForestClassifier
```

```python
y_pred1 = pipeline.predict(x_test)
```

```python
accuracy = accuracy_score(y_test,y_pred1)
print("Accuracy:",accuracy)
```

```
Accuracy: 0.5511383482043629
```

```
#evaluating model
plt.figure(figsize=(5,5))
sns.histplot(y_test_pred,bins=20,kde=True)
plt.title("prediction error")
```

Text(0.5, 1.0, 'prediction error')