

```

# Import libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelEncoder
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import classification_report, accuracy_score,
confusion_matrix

# Load the dataset
df = pd.read_csv('accident_prediction_india.csv')

# Show basic info
print(df.head())
print(df.info())

# Handle missing values (optional)
df.dropna(inplace=True)

# Encode categorical features
label_encoders = {}
for column in df.select_dtypes(include=['object']).columns:
    le = LabelEncoder()
    df[column] = le.fit_transform(df[column])
    label_encoders[column] = le

# Split features and target
X = df.drop('Accident Severity', axis=1)
y = df['Accident Severity']

# Train/Test split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
random_state=42)

# Train a Random Forest Classifier
model = RandomForestClassifier(n_estimators=100, random_state=42)
model.fit(X_train, y_train)

# Predict
y_pred = model.predict(X_test)

# Evaluate the model
print("Accuracy:", accuracy_score(y_test, y_pred))
print("\nClassification Report:\n", classification_report(y_test, y_pred))

```

```
print("\nConfusion Matrix:\n", confusion_matrix(y_test, y_pred))

# Feature Importance Plot
importances = model.feature_importances_
features = X.columns
plt.figure(figsize=(10,6))
sns.barplot(x=importances, y=features)
plt.title("Feature Importance in Accident Severity Prediction")
plt.tight_layout()
plt.show()
```