```
 1 D:\Project\intelligent\.venv\Scripts\python.exe D:\
   Project\intelligent\classification_models.py
 2 === Step 1: Prerequisites ===
 3 === Step 2: Load Data ===
 4 ▯ Data Loaded | Train: (283360, 34), Validation: (
   60720, 34), Test: (60720, 34)
 5
 6 === Step 3: Model Training ===
 7 D:\Project\intelligent\.venv\Lib\site-packages\
   sklearn\utils\validation.py:1406:
   DataConversionWarning: A column-vector y was passed
   when a 1d array was expected. Please change the shape
    of y to (n_samples, ), for example using ravel().
 8   y = column_or_1d(y, warn=True)
 9 Logistic Regression Accuracy: 0.9576
10 D:\Project\intelligent\.venv\Lib\site-packages\
   sklearn\base.py:1365: DataConversionWarning: A column
   -vector y was passed when a 1d array was expected.
   Please change the shape of y to (n_samples,), for
   example using ravel().
11   return fit_method(estimator, *args, **kwargs)
12 Random Forest Accuracy: 0.9583
13
14 ▯ Best Model: RandomForestClassifier (Accuracy: 0.
   9583)
15
16 === Step 4: Detailed Evaluation ===
17 Classification Report:
18              precision    recall  f1-score   support
19
20       False       0.96      1.00      0.98     58146
21        True       1.00      0.02      0.03      2574
22
23    accuracy                           0.96     60720
24   macro avg       0.98      0.51      0.50     60720
25 weighted avg       0.96      0.96      0.94     60720
26
27 Confusion Matrix:
28 [[58146      0]
29  [ 2534     40]]
30 ▯ Model saved as models/
```

```
30 RandomForestClassifier_emi_eligibility.pkl
31
32 Process finished with exit code 0
33
```