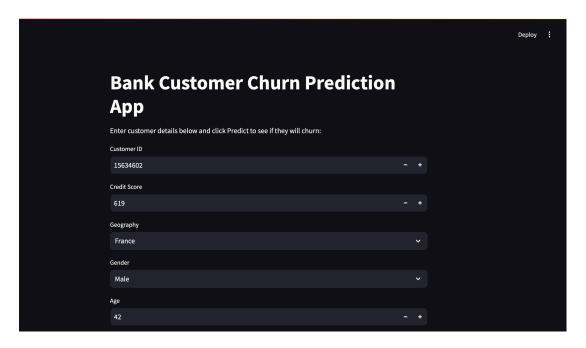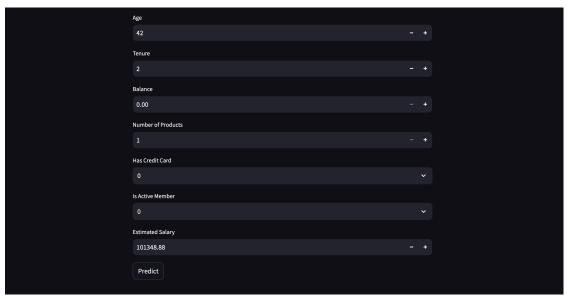# The Result of Churn Model

```
warnings.warn(
Best Parameters:  {'classifier__max_depth': None, 'classifier__max_features': 'sqrt', 'clas
sifier__min_samples_leaf': 4, 'classifier__min_samples_split': 10, 'classifier__n_estimator
s': 200}
Accuracy:  0.8664
Classification Report:
              precision    recall  f1-score   support

           0       0.88      0.97      0.92      2003
           1       0.78      0.45      0.58       497

    accuracy                           0.87      2500
   macro avg       0.83      0.71      0.75      2500
weighted avg       0.86      0.87      0.85      2500
```
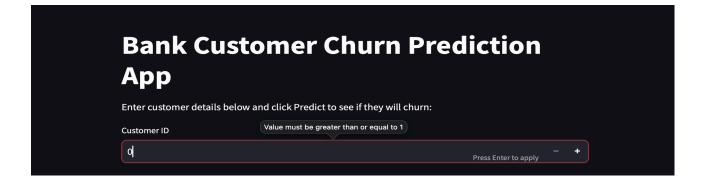
APP

I restricted input fields. Let's check.

```python
# Input fields
customer_id = st.number_input("Customer ID", min_value=1, value=15634602)
credit_score = st.number_input("Credit Score", min_value=0, max_value=850, value=619)
geography = st.selectbox("Geography", ["France", "Germany", "Spain"])
gender = st.selectbox("Gender", ["Male", "Female"])
age = st.number_input("Age", min_value=18, max_value=100, value=42)
tenure = st.number_input("Tenure", min_value=0, max_value=20, value=2)
balance = st.number_input("Balance", min_value=0.0, value=0.0)
num_of_products = st.number_input("Number of Products", min_value=1, max_value=4, value=1)
has_credit_card = st.selectbox("Has Credit Card", [0, 1])
is_active_member = st.selectbox("Is Active Member", [0, 1])
estimated_salary = st.number_input("Estimated Salary", min_value=0.0, value=101348.88)
```

Bank Customer Churn Prediction App

Enter customer details below and click Predict to see if they will churn:

Customer ID

Value must be greater than or equal to 1

0

Press Enter to apply − +

Credit Score

Value must be greater than or equal to 0

-200

Press Enter to apply − +

Male ⌄

Age

Value must be less than or equal to 100

105

Press Enter to apply − +

Number of Products

Value must be less than or equal to 4

5

− +

Bank Customer Churn Prediction App

Enter customer details below and click Predict to see if they will churn:

Customer ID

556   −   +

Credit Score

200   −   +

Geography

Spain   ⌄

Gender

Male   ⌄

Age

35   −   +

Tenure

2   −   +

Deploy   ⋮

Balance

0.00   −   +

Number of Products

3   −   +

Has Credit Card

1   ⌄

Is Active Member

1   ⌄

Estimated Salary

10048.87   −   +

Predict

Prediction: The customer is **not likely to churn**.