

**predict.py**

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3 from tensorflow.keras.models import load_model
4 from preprocess import preprocess_data
5 from model import CustomAttention # IMPORTANT
6
7 # Load data
8 X_train, y_train, X_test, y_test, scaler = preprocess_data()
9
10 # ♦ LOAD MODEL WITH CUSTOM OBJECT
11 model = load_model(
12     "stock_lstm_attention.h5",
13     custom_objects={"CustomAttention": CustomAttention},
14     compile=False
15 )
16
17 # Predict
18 predictions = model.predict(X_test)
19
20 # Inverse scale
21 predictions = scaler.inverse_transform(predictions.reshape(-1, 1))
22 actual = scaler.inverse_transform(y_test.reshape(-1, 1))
23
24 # Trend detection
25 trend = ["UP" if predictions[i] > actual[i-1] else "DOWN"
26         for i in range(1, len(predictions))]
27
28 # Plot
29 plt.figure(figsize=(10, 5))
30 plt.plot(actual, label="Actual Price")
31 plt.plot(predictions, label="Predicted Price")
32 plt.title("Stock Price Prediction using LSTM + Attention")
33 plt.xlabel("Time")
34 plt.ylabel("Price")
35 plt.legend()
36 plt.show()
37
38 print("Latest Trend:", trend[-1])
39
```