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model.py

1 import tensorflow as tf
2 from tensorflow.keras.layers import LSTM, Dense, Input
3 from tensorflow.keras.models import Model
4
5 # ◆ RENAMED Custom Attention Layer
6 class CustomAttention(tf.keras.layers.Layer):
7     def __init__(self):
8         super(CustomAttention, self).__init__()
9
10    def call(self, inputs):
11        # inputs shape: (batch, timesteps, features)
12        score = tf.nn.softmax(tf.reduce_mean(inputs, axis=2), axis=1)
13        context = tf.reduce_sum(inputs * tf.expand_dims(score, -1), axis=1)
14        return context
15
16
17 def build_model(input_shape):
18     inputs = Input(shape=input_shape)
19
20     lstm_out = LSTM(64, return_sequences=True)(inputs)
21
22     attention_out = CustomAttention()(lstm_out)
23
24     output = Dense(1)(attention_out)
25
26     model = Model(inputs, output)
27     model.compile(optimizer="adam", loss="mse")
28
29     return model
30
```