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import streamlit as st import pandas as pd import joblib # Load the trained model and scaler
model = joblib.load('model.joblib') scaler = joblib.load('scaler.joblib') st.title('Insurance Charge
Prediction App') st.write('Enter the details below to predict insurance charges:') # Input fields age
= st.slider('Age', 18, 100, 30) sex = st.selectbox('Sex', ['male', 'female']) bmi = st.slider('BMI',
15.0, 50.0, 25.0) children = st.slider('Number of Children', 0, 5, 1) smoker =
st.selectbox('Smoker', ['yes', 'no']) region = st.selectbox('Region', ['southwest', 'northwest',
'southeast', 'northeast']) # Create a DataFrame from inputs input_data = pd.DataFrame({ 'age':
[age], 'sex': [sex], 'bmi': [bmi], 'children': [children], 'smoker': [smoker], 'region': [region] }) #
Preprocess the input data # Align columns with the training data (X.columns obtained during
training) # Recreate original_cols from the notebook state original_cols = ['age', 'bmi', 'children',
'sex_male', 'smoker_yes', 'region_northwest', 'region_southeast', 'region_southwest'] # Replace
with actual X.columns input_data_processed = pd.get_dummies(input_data, columns=['sex',
'smoker', 'region'], drop_first=True) # Add missing columns with False and reorder to match
training data for col in original_cols: if col not in input_data_processed.columns:
input_data_processed[col] = False input_data_processed = input_data_processed[original_cols]
# Scale the input data input_data_scaled = scaler.transform(input_data_processed) # Predict
charges if st.button('Predict Charges'): prediction = model.predict(input_data_scaled)
st.success(f'Predicted Insurance Charges: ${prediction[0][0]:.2f}')
```