

```

1 import streamlit as st
2 import pickle
3
4 # Load model
5 with open(r"C:\Users\ASUS\Desktop\akira\project_model.pkl", 'rb') as file:
6     Regressor = pickle.load(file)
7
8 # Page settings
9 st.set_page_config(page_title="AQI Predictor 🌿", page_icon="🌿", layout="centered")
10
11 # ----- Custom CSS for background and font styling -----
12 st.markdown("""
13     <style>
14     /* Background image with gradient overlay */
15     .stApp {
16         background: linear-gradient(rgba(0,0,0,0.6), rgba(0,80,120,0.7)),
17         url("https://images.unsplash.com/photo-1535905748047-14b8f1e9df4d?auto=format&fit=crop&w=1950&q=80");
18         background-size: cover;
19         background-position: center;
20         color: white;
21     }
22
23     /* Title and layout tweaks */
24     h1, h3, .stMetric {
25         color: #ffffff;
26         text-shadow: 2px 2px 4px #000000;
27         text-align: center;
28     }
29
30     .block-container {
31         padding-top: 2rem;
32     }
33
34     .css-1r6slb0 {
35         background-color: rgba(255, 255, 255, 0.05);
36         padding: 2rem;
37         border-radius: 10px;
38     }
39
40     .stSidebar > div:first-child {
41         background-color: rgba(255,255,255,0.1);
42         color: white;
43     }
44     </style>
45 """, unsafe_allow_html=True)
46
47 # ----- App Title -----
48 st.title("🌿 AQI Prediction 🌿")
49 st.markdown("### Enter atmospheric gas levels to estimate Air Quality Index (AQI)")
50
51 # ----- Sidebar Input -----
52 st.sidebar.header("🌿 Enter Environmental Data")

```

diabetes.py mainprojectpproto.py mainproject.py projectfinal.py X

projectfinal.py > ...

```
50
51 # ----- Sidebar Input -----
52 st.sidebar.header("📝 Enter Environmental Data")
53 SO2 = st.sidebar.number_input("🟡 SO2 (Sulfur Dioxide)", min_value=0.0, format="%.2f", help="Concentration in µg/m³")
54 CO = st.sidebar.number_input("🔴 CO (Carbon Monoxide)", min_value=0.0, format="%.2f")
55 NO = st.sidebar.number_input("🟡 NO (Nitric Oxide)", min_value=0.0, format="%.2f")
56 NO2 = st.sidebar.number_input("🟠 NO2 (Nitrogen Dioxide)", min_value=0.0, format="%.2f")
57 NOX = st.sidebar.number_input("❤️ NOx (Nitrogen Oxides)", min_value=0.0, format="%.2f")
58 NH3 = st.sidebar.number_input("💚 NH3 (Ammonia)", min_value=0.0, format="%.2f")
59 O3 = st.sidebar.number_input("💙 O3 (Ozone)", min_value=0.0, format="%.2f")
60 WS = st.sidebar.number_input("🌀 Wind Speed", min_value=0.0, format="%.2f", help="in m/s")
61 WD = st.sidebar.number_input("🌬️ Wind Direction", min_value=0.0, format="%.2f")
62 RH = st.sidebar.number_input("💧 Humidity (RH)", min_value=0.0, format="%.2f", help="%")
63 SR = st.sidebar.number_input("☀️ Solar Radiation", min_value=0.0, format="%.2f")
64 TC = st.sidebar.number_input("🌡️ Temperature", min_value=0.0, format="%.2f", help="°C")
65
66 # ----- Predict Button -----
67 if st.button("🔮 Predict AQI"):
68     features = [SO2, CO, NO, NO2, NOX, NH3, O3, WS, WD, RH, SR, TC]
69     prediction = Regressor.predict(features)[0]
70     rounded_pred = round(prediction, 2)
71
72     # Display prediction
73     st.markdown("## 📊 Predicted AQI")
74     st.metric(label="📈 AQI Score", value=rounded_pred)
75
76     # Interpretation
77     if rounded_pred <= 50:
78         st.success("✅ *Good Air Quality* 🌿\nEnjoy your outdoor activities!")
79     elif rounded_pred <= 100:
80         st.info("🟡 *Moderate Air Quality* 🧑‍🤔\nSensitive individuals should take care.")
81     elif rounded_pred <= 150:
82         st.warning("⚠️ *Unhealthy for Sensitive Groups* 🧑‍🤔\nLimit prolonged exposure outdoors.")
83     elif rounded_pred <= 200:
84         st.error("🔴 *Unhealthy* 🚫\nMinimize outdoor activity.")
85     else:
86         st.error("💀 *Hazardous* 🧑‍🤔\nStay indoors and use air purifiers if possible.")
87
88 # ----- Footer -----
89 st.markdown("---")
90 st.markdown(
91     "<div style='text-align:center; color:white;'>Built with ❤️ using Streamlit | © 2025 Akira AQI Project</div>",
92     unsafe_allow_html=True
93 )
94
```

Enter Environmental Data

SO₂ (Sulfur Dioxide)

99999.00 - +

CO (Carbon Monoxide)

999999.00 - +

NO (Nitric Oxide)

999999.00 - +

NO₂ (Nitrogen Dioxide)

999999.00 - +

NO_x (Nitrogen Oxides)

999999.00 - +

NH₃ (Ammonia)

999999.00 - +

O₃ (Ozone)

999999.00 - +

Wind Speed

999999.00 - +

Wind Direction

999999.00 - +

Humidity (RH)

999999.00 - +

Solar Radiation


99999.00 - +


Temperature

99999.00 - +

AQI Prediction



Enter atmospheric gas levels to estimate Air Quality Index (AQI)

 Predict AQI

 Predicted AQI

 AQI Score

86.67

 Moderate Air Quality  Sensitive individuals should take care.

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