

9 Nov\Brain-Tumor-Classification-DataSet-master\app.py

```
1 import streamlit as st
2 import numpy as np
3 from tensorflow import keras
4 from tensorflow.keras.preprocessing import image
5 from PIL import Image
6
7 # -----
8 # 1 Load your model
9 # -----
10 MODEL_PATH = r"C:\Users\mahes\OneDrive - United Nations\Data Science course Naresh\3 Data
11   Science\Aritificial Intelegence - AI\November\9 Nov\Brain-Tumor-Classification-DataSet-
12   master\brain_tumor_classifier_v1.keras"
13
14 @st.cache_resource
15 def load_model(path):
16     return keras.models.load_model(path)
17
18 model = load_model(MODEL_PATH)
19
20 # -----
21 # 2 Labels (same as training)
22 # -----
23 labels = ['glioma_tumor', 'meningioma_tumor', 'no_tumor', 'pituitary_tumor']
24
25 # -----
26 # 3 Streamlit UI
27 # -----
28 st.title("🧠 Brain Tumor Classification App")
29 st.write("Upload an MRI image to classify the brain tumor type.")
30
31 # -----
32 # 4 Process uploaded image
33 # -----
34 if uploaded_file is not None:
35     # Open and display the image
36     img_display = Image.open(uploaded_file)
37     st.image(img_display, caption="Uploaded MRI Image", use_column_width=True)
38
39     # Convert to RGB if not already (some MRI images may be grayscale)
40     img_display = img_display.convert("RGB")
41
42     # Preprocess the image (resize, array, normalize)
43     img = image.load_img(uploaded_file, target_size=(150,150)) # resize same as training
44     img_array = image.img_to_array(img)
45     img_array = np.expand_dims(img_array, axis=0)
46     img_array = img_array / 255.0 # normalize like training
47
48 # -----
49 # 5 Predict fresh for each image
50 # -----
```

```
51 prediction = model.predict(img_array)
52 predicted_class = labels[np.argmax(prediction)]
53 confidence = np.max(prediction)
54
55 # Display results
56 st.markdown(f"### 🌿 Predicted Tumor Type: **{predicted_class}**")
57 st.markdown(f"### 🔳 Confidence: **{confidence:.2f}**")
58 st.write("### Note: This is a demo app. For medical diagnosis, please consult a
healthcare professional.")
```