

# ■ Brain Tumor Detection Report

- **Prediction:** glioma
- **Confidence Score:** 96.25%
- **Top Features:** PC3, PC4, PC6

■ **Medical Insight:**  
The model identified characteristics typical of glioma tumors. Key feature PC3 showed high impact, which often correlates with infiltrative growth patterns commonly seen in gliomas.

Class	Probability	Confidence
glioma	0.9625	96.25%
meningioma	0.0273	2.73%
no_tumor	0.0014	0.14%
pituitary	0.0089	0.89%

- Technical Details:**
- Preprocessing: CLAHE + Resize to 224x224
  - Feature Extractor: ViT-B16 (64-dim features)
  - Dimensionality Reduction: PCA to 45 components
  - Classifier: CatBoost with Optuna optimization
  - Model Accuracy: 89.76%