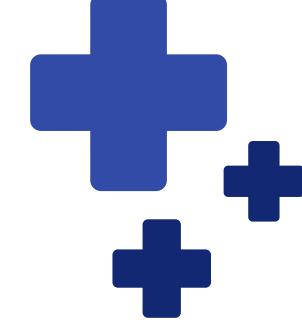


# Brain Tumor Classification Using Deep CNN & Explainable AI

Prepared by  
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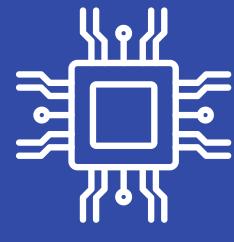
Supervised by  
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## The Problem

Manual MRI diagnosis is often slow and prone to human error. Current AI solutions are frequently 'black boxes' that require expensive hardware and fail to provide clear, reliable visual evidence for their decisions., limiting clinical trust.

## Technical Framework



### MobileNetV2

Lightweight backbone optimized for high accuracy and CPU efficiency (~200MB RAM).



### Preprocessing

Bilinear resizing and contrast enhancement factor of 2.0 for stable learning.



### Score-CAM

Gradient-free saliency maps to provide clean, noise-free tumor localization.

**93%**

Test Accuracy

**<1.5s**

Inference Speed

## Explainable AI

the system highlights tumor regions with anatomical precision, aiding radiologist verification.

