

Report on Brain Tumor Detection Using Deep Learning Project

1. Description

This project demonstrates how deep learning can be leveraged to classify brain tumors using MRI scans. The EfficientNet models, known for balancing accuracy and efficiency, were chosen to achieve high performance.

2. Why EfficientNetB3 and EfficientNetB0?

We chose EfficientNetB3 and EfficientNetB0 for the following reasons:

- Efficiency: These models offer an excellent trade-off between computational efficiency and classification accuracy.
- Pre-trained Weights: Both models use ImageNet pre-trained weights, helping in faster convergence and better generalization.
- Architecture Flexibility: The models allow for easy customization to add more layers for our classification problem.
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3. Custom Training

The models were trained using custom layers on top of EfficientNet, including:

- Global Average Pooling.
- Fully connected Dense layers.
- Dropout for regularization.