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Hello,

The following submission has been edited.

Track Name: ICERCS2024

Paper ID: 1728

Paper Title: Integrating Hybrid Deep Learning Architectures for Accurate Brain Tumor Classification

Abstract:
An important part of medical imaging is classifying brain tumors since precise detection is critical to an early diagnosis and for the planning of effective treatment. This study presents a hybrid deep learning model combining two well- established architectures, VGG16 and InceptionV3, to classify brain MRI images into two classes: tumor and no tumor. The model combines the good of two complex convolutional neural networks (CNNs), taking the benefit of extracting features with VGG16 and spatial optimization with InceptionV3. The dataset of labeled brain MRI images is then used to train the hybrid model using transfer learning, fine tuning and regularization, and data augmentation is applied to the images to standardize their dimensions and normalize pixel values, as well as to increase the dataset size and decrease the risk of overfitting. Metrics such as precision, recall, F1-score, and overall accuracy are applied to evaluate its classification accuracy. The output highlights the model's ability to discriminate between tumor and non-tumor cases and demonstrates its potential for automated brain tumor detection. The goal of this research is to help radiologists to speed up and improve diagnostic accuracy to optimize patient prognoses in the overall management of brain tumors.

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Status:

Preparing the paper for the conference submission, awaiting acceptance.