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Topic-1

Brain Tumor detection using Basic CNN and VGG16
to improve accuracy for health and well-being.

Aim:

The primary objective of this examination is to comprehensively investigate and analyze the efficiency of integrating VGG-16 and basic CNN algorithm in the brain tumor detection. The specific aim are as follows:

Introduction:

In the contemporary medical diagnostic, the detection of brain tumor stands as a critical frontier playing an instrumental role in preventing and enhancing the health and well-being brain tumor and their potential impact on cognitive function underscore the urgency for the development of accurate and efficient detection methodologies. This work paper develops into a sophisticated approach that amalgamates ~~correlation~~ VGG-16 and Basic Convolutional Envisioning a paradigm shift in brain tumor detection methodologies.

Related works:

Defecting Brain humor using Basic CNN and VGG16
operationally

Published on: 01. January 2019.

Brain humor detection using Color-Based VGG16
Segmentation

Published: 12-Dec-2017.

Brain humor segmentation based on Extracting random
feature with high feature

Publisher: 14-Sep-2023

Dataset:

No. of Groups: 2

Sample size per sample: 980

Total sample size: 1960

Materials:

Data:

Specify the dataset used in the study. It includes the detailed image of the MRI scanning of human brain. So categories the healthy and unhealthy brain.

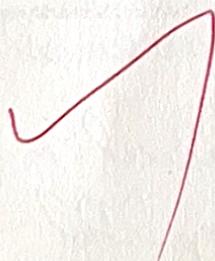
Software and Tools:

Data analysis and modelling were conducted using python programming language. The following libraries and framework were employed.

- Tensorflow is used for the image recognition.
- Keras is also for the implementation of neural network.
- CV2 is used for the processing the image dataset.
- Sklearn is used for the machine learning model

Study setting

Sreeetha School of Engineering
(Sreeetha Institute of medical and technical sciences).



Result and Discussion:

The integration of Convolution neural network (CNN) and VGG-16 clustering demonstrated a commendable increase in hair tumor detection accuracy with a notable improvement of 94.3%. During our evaluation, this collaboration approach, utilizing CNN for feature extraction and VGG-16 for clustering, resulted in enhanced performance. This significant improvement holds promise for elevating diagnostic precision in clinical settings, emphasizing the potential of advanced computational methodologies to positively impact medical imaging outcomes.

In this model VGG-16 got the accuracy of 94.3 and Basic CNN got the accuracy of 92.63, where VGG-16 has improved accuracy.

Conclusion: In conclusion, the integration of CNN and VGG-16 demonstrates a promising advancement in hair tumor detection, yielding a notable accuracy improvement. This collaborative model showcases the potential for enhanced diagnostic precision in clinical applications. Future research and validation are crucial to establish its reliability across diverse datasets, making a positive stride towards leveraging Computational approaches for improved medical imaging outcomes.

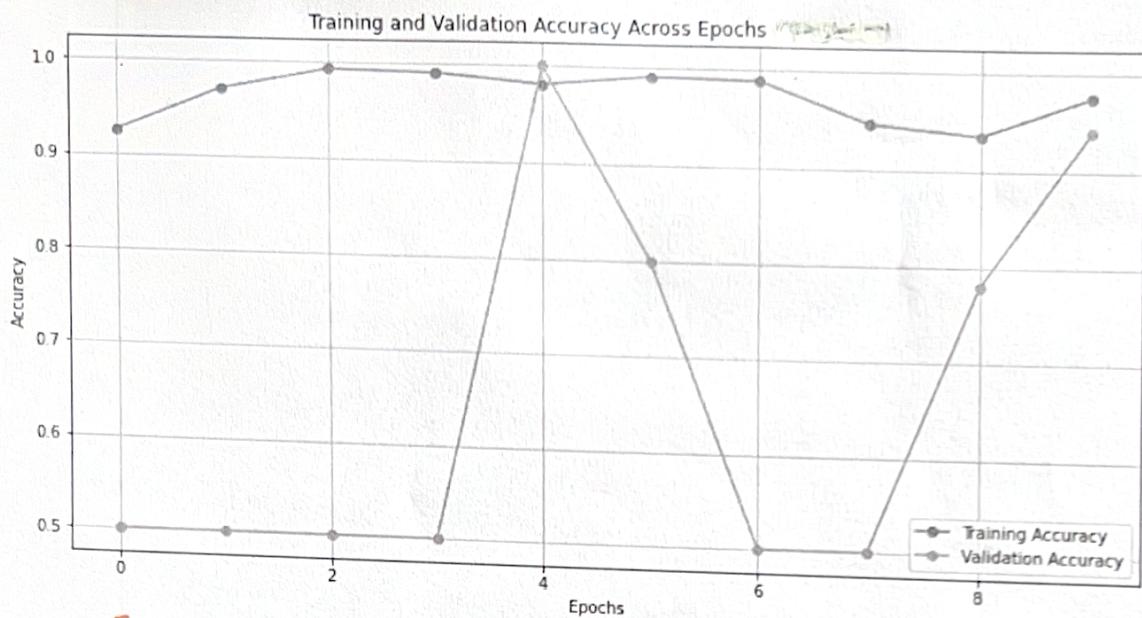


Fig: 1.1 = show the accuracy of CNN

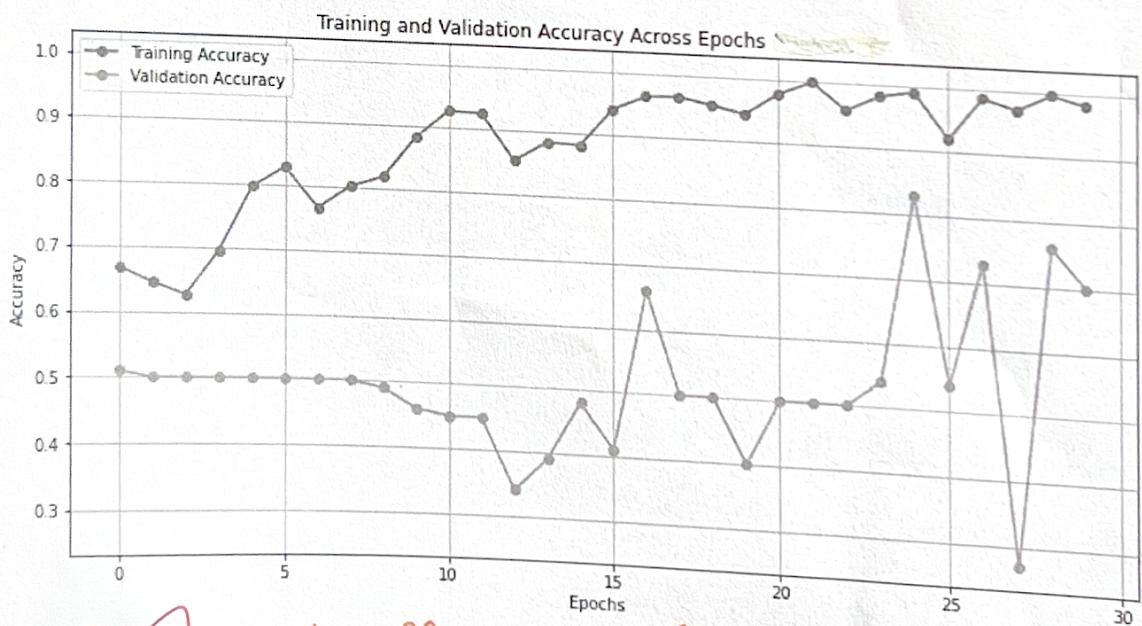


Fig 1.2 = show the accuracy of vgg-16