Image Segmentation Project for Brain Tumor Prognosis

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INTRODUCTION

Image segmentation is a critical process in medical imaging analysis, which involves separating an image into multiple segments or regions of interest. One of the most common applications of image segmentation is in the diagnosis and prognosis of brain tumors, a serious and often life-threatening condition. In this project, the goal is to develop an accurate and reliable image segmentation model.

OBJECTIVE

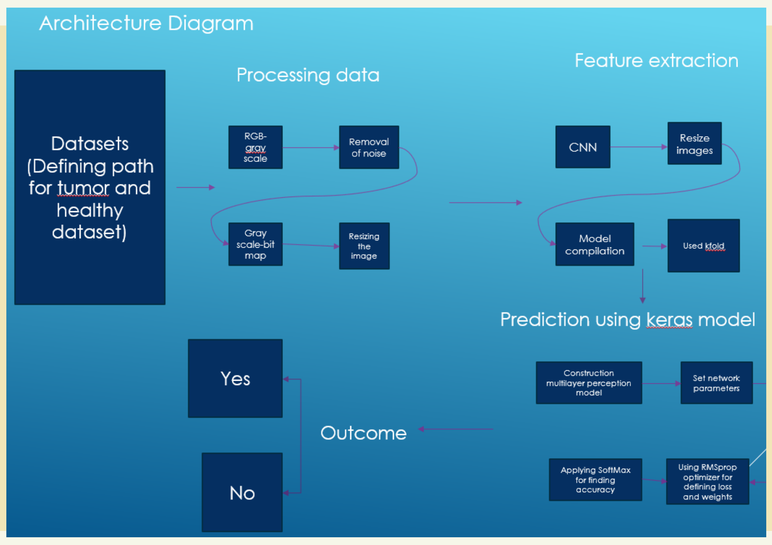
1. Accurately identifying the boundaries of brain tumors.
2. Segmenting tumor regions from healthy regions
3. Quantifying tumor characteristics.

MOTIVATION

Image segmentation, which entails dividing an image into various regions or segments, is a crucial task in medical image analysis. The precise segmentation of brain tumours from magnetic resonance imaging (MRI) scans can provide vital information for diagnosis, treatment planning, and disease progression, making this endeavour especially significant in the context of brain tumour prognosis.

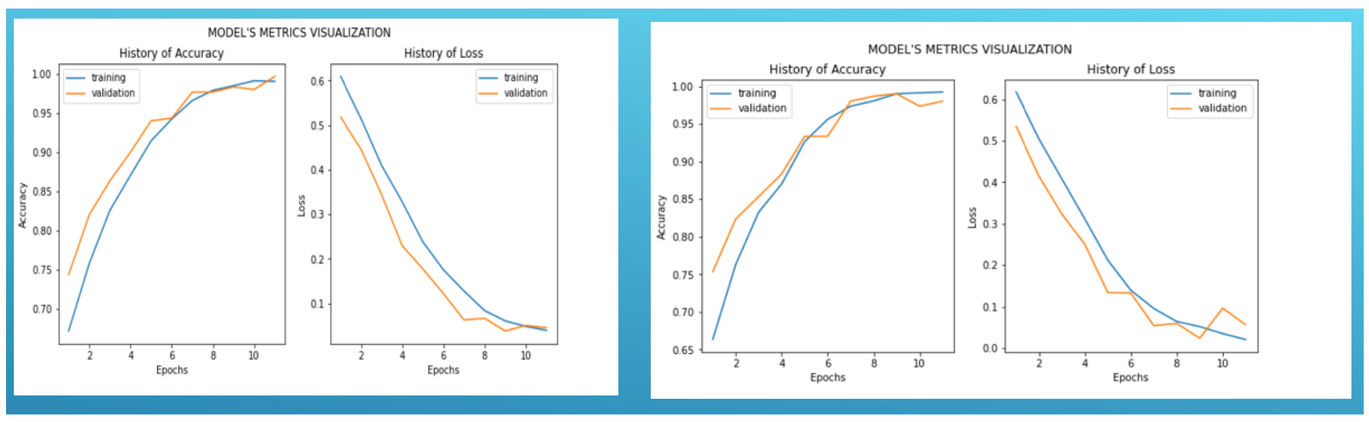
METHODOLOGY

These features can then be used to train a machine learning model, which can predict the tumor's prognosis with high accuracy. This project has the potential to significantly improve brain tumor diagnosis and treatment planning, leading to better patient outcomes.



RESULTS

The accuracy of the segmentation model would be evaluated by comparing the results of the model to manual annotations performed by trained professionals. This would be done using metrics such as the Dice coefficient, Jaccard index, and Hausdorff distance, among others.



CONCLUSION

In conclusion, the Image Segmentation Project for Brain Tumor Prognosis has demonstrated the potential of artificial intelligence and image processing techniques to improve the accuracy and speed of tumor segmentation in medical images.the project has developed a model that can accurately segment brain tumors from MRI images, providing clinicians with a useful tool for diagnosis and prognosis.

REFERENCES

1. https://www.ijisme.org/wp-content/uploads/papers/v1i9/I0425081913.pdf

ACKNOWLEDGEMENT

1. https://github.com/kinshukkushalreddy/Image-Segmentation-Project-for-Brain-Tumor-Prognosis.git