VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI-590 018

PROJECT REPORT ON

"CLASSIFICATION OF BRAIN TUMOR IMAGES USING DEEP NEURAL NETWORK"

Submitted in partial fulfillment for the award the Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

By

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CERTIFICATE

This is to certify that the Project entitled **"CLASSIFICATION OF BRAIN TUMOR IMAGES USING DEEP NEURAL NETWORK"** has been successfully completed by

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The bonafide students of **Department of Computer Science & Engineering, Alva's Institute of Engineering and Technology** impartial fulfillment for the award of **BACHELOR OF ENGINEERING** in **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2019–2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Mr.Venkatesh	**Dr. Manjunath Kotari**	**Dr. Peter Fernandes**
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ABSTRACT

Deep learning algorithms, in particular convolutional networks, have rapidly become a methodology of choice for analyzing medical images. Brain tumor is a group of tissue that is prearranged by a slow addition of irregular cells. It occurs when cell get abnormal formation within the brain. Recently it is becoming a major cause of death of many people .We present a new CNN architecture for brain tumor classification of three tumor types. The proposed system consists of manifold phases. Preprocessing, segmentation, feature extraction, and classification. At initially preprocessing is performed by using filtering algorithm. Secondly segmentation is performed by using clustering algorithm. Thirdly feature extraction is performed by Gray Level Co-Occurrence Matrix (GLCM). The accuracy was 98.0%. With good generalization capability and good execution speed, the new developed CNN architecture could be used as an effective decision-support tool for radiologists in medical diagnostics.