MRI-BASED BRAIN TUMOR CLASSIFICATION ON DEEP LEARNING USEING SGD ALGORITHM

A Project report submitted in partial fulfilment of the requirements for the award of degree

Of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMUNICATION ENGINEERING

Submitted by

P. BHANU PRASAD Regd.No.21815A0405

V. POORNA SEKHAR Regd.No.21815A0409

P. JAVANTII REGUNE 21015 A0416

S. VARSHINI Regd.No.21815A0417

P.N. DURGA PRASAD Regd.No.20811A0454

Under the guidance of

Mr.S.V.ANAND, M.Tech

Assistant Professor



AVANTHI INSTITUTE OF ENGINEERING &TECHNOLOGY

DEPARTMENT OF

ELECTRONICS AND COMUNICATION ENGINEERING

(NAAC Accredited, Approved by A.I.C.T.E, Permanently Affiliated to J.N.T.U. *VIZIANAGARAM*)

TAMARAM (P.O), MAKAVARAPALEM (M.O), NARSIPATNAM (R.D)

ANAKAPALLE DISTRICT-531113

2020-2024

AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

(NAAC Accredited, Approved by A.I.C.T.E, Permanently Affiliated to J.N.T.U. VIZIANAGARAM)

TAMARAM (PO), MAKAVARAPALEM (MO), NARSIPATNAM (RD)

ANAKAPALLE DISTRICT-531113

DEPARTMENT OF

ELECTRONICS AND COMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project entitled "BRAIN TUMOR DETECTION & CLASSFICATION USING DEEP LEARNING ON MRI IMAGES" in partial fulfilment for the of degree of Bachelor of technology in ELECTRONICS AND COMUNICATION ENGINEERING, at AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, MAKAVARAPALEM, VISAKHAPATNAM is an bonified work carried out by P. BHANU PRASAD (21815A0405), V.POORNA SEKHAR (21815A0409), P.JAYANTH (21815A0416), S.VARSHINI (21815A0417), P. N. DURGA PRASAD (20811A0454)Under the guidance and supervision during 2023 2024.

PROJECT GUIDE

I would like to capit

HEAD OF THE DEPARTMENT

Mr. S.V.ANANU, M.Tech

Dr E. GUVINDA, MTech, Ph. D

Assistant professor

Professor

External Examiner

PJAYANIII

& VARSHINI

HEAD OF THE DEPARTMENT

DEPARTMENT OF ECE

Avanthi Institute of Engg. & Tech.

Makavarapalem, Viss khapatnam Dist. 531 113

ABSTRACT

A brain tumour is a cancerous (malignant) or non-cancerous (benign) abnormal growth of cells or mass in the brain. The identification of the tumour is done by magnetic resonance imaging (MRI). The timely detection of brain tumours plays a vital role as it can be life-threatening if left untreated. The traditional method of manually checking the MR image might not be very accurate since it is dependent on the skill of the person examining the images. To increase the efficiency and accuracy of diagnoses by the radiologists and neurologists, we propose a model which uses Convolutional Neural Networks (CNN) based on deep learning techniques to classify the common types of tumour. The dataset of 3264 and Real Time Images collected from several patients consists of MRI images of three different labelled brain tumours that are commonly found: Meningiomas, Gliomas and Pituitary Adenomas. The proposed model is first trained using a large number of labelled images and then the model classifies any given MRI image into one of the three above mentioned classes.

Keywords: MRI, CNN, Meningiomas, Gliomas and Pituitary Adenomas,

Whiteldly.

diministration in the day by sea from a first program of the stage of the earpul of a jungeous and troop of the common tipe in the common tipe in

For excepts, variet this definition, seem the second set of the work

an intege faction significately a charge appropriate assault for the the appropriate of the country of the country operation the the other breek there we have a subject to provide the second second

to the consultry to chimber history than the same materials there are not express and a sold

despringers of all whom objective takes besides besides and lineral. The first of Alle in

destroys or got of atheres in letter and all and horse or and all all and and the register of the second and th minimal record astern. They move of the property in the control of the control and control of the control of the

believe of the continuous and engineers of the three or the second beautiful to the

The state of the state of the state of the state of