

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**“Jnana Sangama”, Belagavi-560014, Karnataka**



**PROJECT REPORT ON**

**“BRAIN TUMOR DETECTION USING DEEP LEARNING”**

*SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
PROJECT*

**BACHELOR OF ENGINEERING  
IN  
COMPUTER SCIENCE & ENGINEERING**

**Submitted By**

**Bhuvaneshwari (1SV19CS021)**

**Monisha P (1SV19CS044)**

**Jyoti M M (1SV19CS037)**

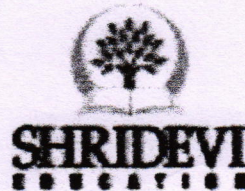
**Monika P (1SV19CS043)**

**Under the guidance of**

**Dr. Basavesha D**

**Associate Professor & HOD Dept.  
of CSE, SIET, Tumakuru.**

*Monika P*  
**PRINCIPAL  
SIET, TUMKUR.**



**Department of Computer Science and Engineering**

**SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY**

**(Affiliated To Visvesvaraya Technological University)**

**Sira Road, Tumakuru – 572106, Karnataka.**

**2022-2023**





**SHRIDEVI**  
EDUCATION

# SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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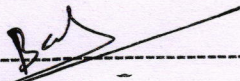
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING


### CERTIFICATE

This is to certify that, Internship project report of entitled "BRAIN TUMOR DETECTION USING DEEP LEARNING" has been successfully carried out by Bhuvaneshwari[ISV19CS021], Monisha P[ISV19CS044], Jyoti M M[ISV19CS037], Moniksa P[ISV19CS043] in partial fulfillment for the project report of **Bachelor of Engineering in Computer Science & Engineering** of the **Visvesvaraya Technological University, Belagavi** during the academic year **2022-23**. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Project report has been approved as it certifies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

  
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**Signature of Guide**

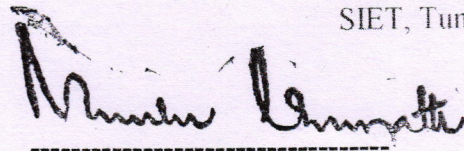
**Dr. Basavesha D**

Associate Professor & HOD  
Dept. of CSE,  
SIET, Tumakuru.

  
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**Signature of H.O.D**

**Dr. Basavesha D** BE., M.Tech., Phd

Associate Professor & HOD  
Dept. of CSE,  
SIET, Tumakuru.

  
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**Signature of Principal**

**Dr. Narendra Viswanath** M.E., Ph.D., MIE, MISTE, MIWS., FIV.,

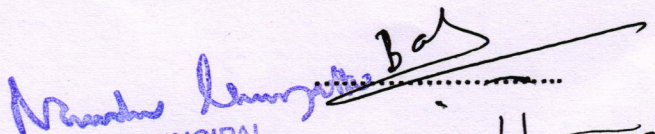
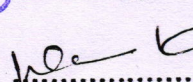
Principal,  
SIET, Tumakuru

**Name of the Examiners**

**Signature with date**

1. Dr. Basavesha D

2. Wagim Uddin

  
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**PRINCIPAL**  
**SIET, TUMKUR.**   
25/5/23



Sri Shridevi Charitable Trust (R.)



## SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

#### DECLARATION

We, **Bhuvaneshwari [ISV19CS021], Monisha P [ISV19CS044], Jyoti M M [ISV19CS037], Monika P [ISV19CS043]** student of VIII semester B.E in Computer Science & Engineering, at Shridevi Institute of Engineering & Technology, Tumakuru, hereby declare that, the Project work entitled "BRAIN TUMOR DETECTION USING DEEP LEARNING", embodies the report of our Project work carried out under the guidance of **Dr. Basavesha D, Associate Professor & HOD Department of CSE, SIET, Tumakuru** as partial fulfillment of requirements for the Project report in **Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi**, during the academic year 2022-23. The Project has been approved as it satisfies the academic requirements in respect to the Project work.

Place: Tumakuru

Student Name & Signature

Date: 25/5/2023

Bhuvaneshwari [ISV19CS021]

*Bhuvaneshwari*

Monisha P [ISV19CS044]

*Monisha P*

Jyoti M M [ISV19CS037]

*Jyoti M M*

Monika P [ISV19CS043]

*Monika P*

*Basavesha D*  
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Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms. **BHUVANESHWARI** bearing USN **1SV19CS021** Student of **Shridevi Institute of Engineering & Technology** has successfully completed her Project Work titled "Brain Tumor Detection Using Deep Learning".

We wish every success in her career.

For ShriTEK Innovations

*Gee*  
Authorized Signature



*N. Srinivas*  
PRINCIPAL  
SIET, TUMKUR.





# ShriTEK Innovations

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Date: 22/05/2023

## TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms. MONIKA P bearing USN SV19CS043 Student of Shridevi Institute of Engineering & Technology has successfully completed her Project Work titled "Brain Tumor Detection Using Deep Learning".

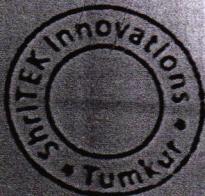
We wish every success in her career.

For ShriTEK Innovations

*Nandini Kumar*  
PRINCIPAL  
SIET, TUMKUR.

*Gee*  
Authorized Signature

*Nandini Kumar*  
PRINCIPAL  
SIET, TUMKUR.





## ABSTRACT

Brain is the regulatory unit in human body. It controls the functions such as memory, vision, hearing, knowledge, personality, problem solving, etc. The main reason for brain tumor is the abandoned progress of brain cells. Brain Tumor extraction and its analysis are challenging tasks in medical image processing because brain image is complicated. Segmentation plays a very important role in the medical image processing. In that way MRI (Magnetic Resonance Imaging) has become a useful medical diagnostic tool for the diagnosis of brain and other medical images.

Keywords: Brain Tumor detection, MRI, Machine Learning.

3.1. Existing System  
3.2. Proposed System  
3.3. System Architecture

Chapter 4  
4. System Design  
4.1. Flow Chart  
4.2. Sequence Diagram  
4.3. Class Diagram

Chapter 5  
5. System Methodology  
5.1. Methodology

Chapter 6  
6. Hardware and Software Requirements

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