# **Tumor Detection Using Deep Learning**

## **Overview**

This project aims to detect brain tumors using deep learning techniques. The approach involves training a convolutional neural network (CNN) on a labeled dataset of brain images to classify whether a tumor is present.

## **Dataset**

The dataset is divided into two categories:

* **yes**: Images with brain tumors.
* **no**: Images without brain tumors.

Ensure the dataset is correctly organized and preprocessed before running the model.

## **Features**

* Image classification using CNN.
* Data preprocessing and augmentation to improve model performance.
* Metrics used: accuracy, precision, recall, and F1-score.

## **Installation**

To get started, install the required Python libraries:

pip install -r requirements.txt

## **Usage**

1. **Training the Model**
   * Run the script to train the model:  
     python train\_model.py
2. **Testing the Model**
   * Test the model on new data:  
     python test\_model.py --input <path\_to\_image>
3. **Interactive Exploration**
   * Use the Jupyter notebook DA-cnn-tumor-detection.ipynb for a detailed walkthrough.

## **Results**

The project evaluates model performance using metrics like accuracy and F1-score. Visualizations and example predictions are included in the notebook.

## **Contact**

For any questions or issues, please contact [Your Name] at [Your Email].