



**Brain Tumor detection**

# AI PROPOSAL PRESENTATION

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## AGENDA



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C N N



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# Introduction

- A brain tumor also known as an intracranial tumor, is an abnormal mass of tissue in which cells grow and multiply uncontrollably, seemingly unchecked by the mechanisms that control normal cells.
- Basically a brain tumor is classified into two types :-
  - Benign(Non-Cancerous).
  - Malignant (Cancerous).
- Detection of tumor is done by performing biopsy, which is one of the conventional method to recognize tumors, it should be performed by radiologist or clinical experts in pathology lab and it also depends on one's experience. Manual assessment of pathological changes is leading to human errors and time consuming. It is time consuming process and it might lead to some of human error.
- So, using our project we can easily identify the tumor within very less time and even minimize the error also.

# ABSTRACT

- The main idea of this project is to detect the location of brain tumor using (MRI) Magnetic Resonance Imaging and (CT) Computed Tomography scans. The tumor means abnormal cells growth in a human brain.

This technique is carried out in two steps :

First acquire gray scale image from MRI and CT scan images and then comparing the tumor images.

Using CNN(Convolution Neural Network) architecture we find out exact location of the tumor.

- CNN(Convolution Neural Network) is used here to study the tumor region of MRI Brain Image in terms of its pixel intensity as it helps in removing the frequency components of edge detected MRI scan image.

- In this project we are find out exact position of brain tumor by using Deep Learning.

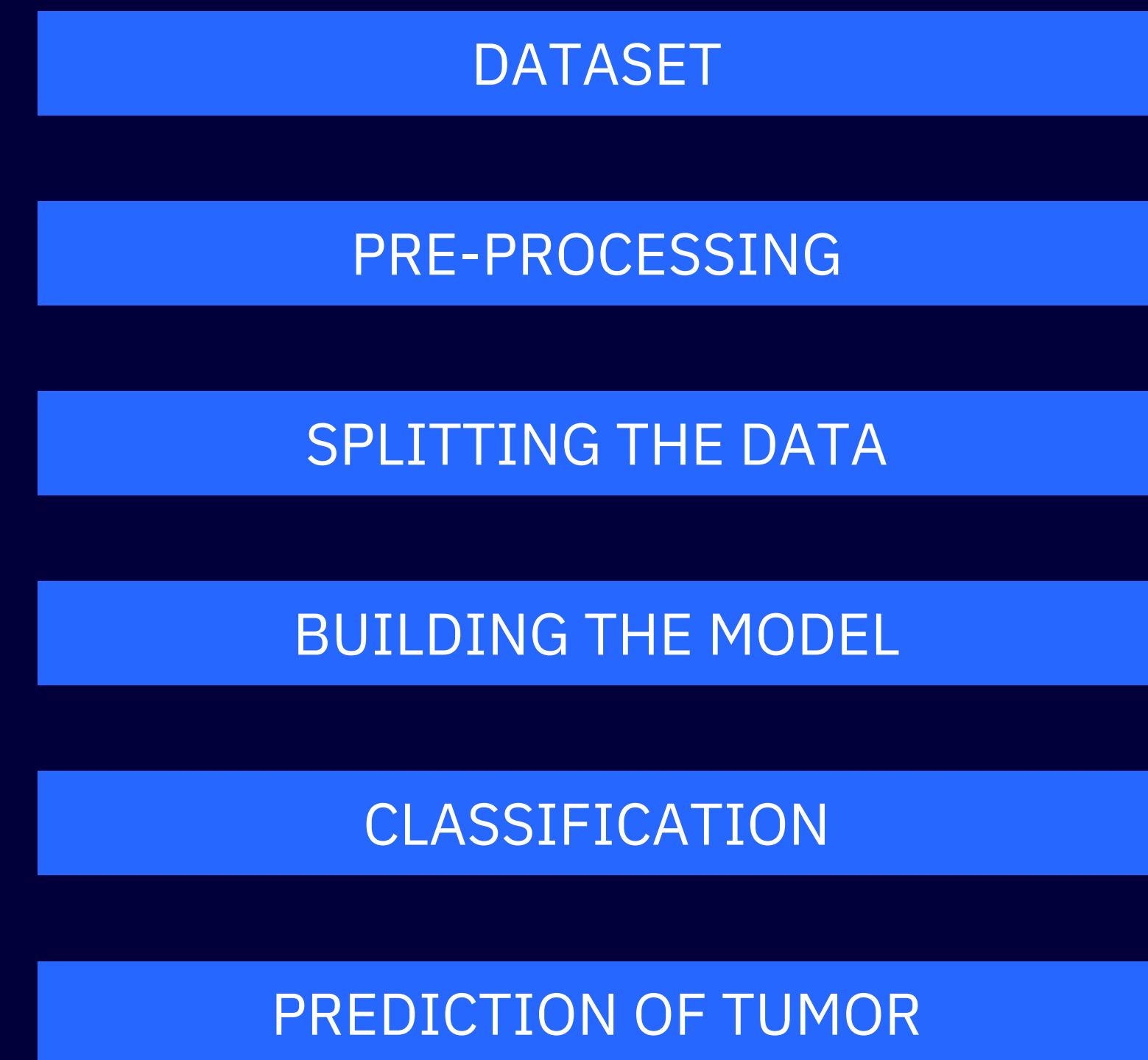
# Objectives

1. To provide doctors.
2. Save patients time
3. provide a solution appropriately at early stages.
4. Get timely consultation.

# METHODOLOGY

- Firstly, we have using the dataset of the Tumor images with the 4 classes (glioma , meningioma ,Notumor and pituitary).
- Necessary pre-processing steps will be completed with the dataset before training with our algorithm.
- Once after training the model will be saved for testing and classifying.
- User can upload the images of which to be classified and by using the saved model the images will be classified and predicted.

# DATA FLOW DIAGRAM



# System & User

## **system :**

- 1.1 Create Dataset :

The dataset containing images of the Brain defect images are to be classified is split into training and testing dataset with the test size of 30-20%.

### 1.2 Pre-processing :

Resizing and reshaping the images into appropriate format to train our model.

### 1.3 Training :

Use the pre-processed training dataset is used to train our model using CNN, algorithm along with some of the transfer learning methods.

## **1.4 Classification:**

**The results of our model is display that you are defect or no and if you are defect the model will display the kind of Tumor.**

## **User:**

- 2.1 Upload Image**

**The user has to upload an image which needs to be classified.**

- 2.2 View Results**

**The classified image results are viewed by user.**

# C N N

- **Convolution Neural Network (CNN) is an Deep learning method used to create Image Editing.**
- **ConvNets has successfully identified faces, objects and diagnostics.**
- **The neural convolution network consists of a convolution layer, an Pooling layer, and a fully connected layer, which can perform a different function in the input data.**

# CNN Architecture

