**Brain tumor detector**

**Problem Statement**:  
Brain tumors are among the most critical and life-threatening medical conditions, requiring early and accurate detection for effective treatment. Traditional methods of diagnosing brain tumors rely heavily on manual analysis of MRI scans by radiologists, which can be time-consuming, subjective, and prone to human error. Additionally, the increasing volume of medical imaging data and the complexity of tumor patterns make it challenging for healthcare professionals to maintain consistent accuracy and efficiency in diagnosis.

To address these challenges, there is a pressing need for an automated, AI-driven solution that can analyze brain MRI scans with high precision, speed, and reliability. Such a system would not only assist radiologists in making faster and more accurate diagnoses but also enable early detection of tumors, improving patient outcomes and reducing healthcare costs.

**Proposed Solution:**

Develop an AI-based brain tumor detection system that:

1. Employs machine learning or deep learning models to classify tumors with high accuracy.
2. Uses **Matplotlib** to visualize predictions, such as tumor boundaries or heatmaps, for better interpretability.

**Objective:**

1. Development of an AI-Powered Brain Tumor Detection System for Early Diagnosis and Treatment Planning

“To develop an AI-powered brain tumor detection system that accurately classifies brain MRI scans into tumorous and non-tumorous categories, enabling early diagnosis and treatment planning.”

1. Building a High-Accuracy Brain Tumor Classification Model Using Deep Learning and Image Processing Techniques