BRAIN TUMOR IMAGE ANALYSIS PROJECT		
Student's Code	AIMS African Institute for Mathematical Sciences SENEGAL	Deadline
TEYI Kodjo		**25 / 05 / 2025**
May 25, 2025		2024-2025
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1 Introduction

This report presents the Brain Tumor Image Analysis project, developed as part of the Computer Vision Course at AIMS Senegal. The project aims to provide a web-based tool for preliminary brain tumor analysis using machine learning models, assisting users in assessing brain images for potential tumors. The tool is intended as a starting point and is not a substitute for professional medical diagnosis.

2 Project Description

The Brain Tumor Image Analysis tool is a web application built using Flask, Tailwind CSS, and JavaScript. It features a user-friendly interface with the following functionalities:

- **Image Upload and Analysis**: Users can upload brain images and select a machine learning model (PyTorch AlexNet or TensorFlow Custom CNN) for analysis.
- **Prediction and Results**: The application predicts the presence of a brain tumor (e.g., glioma, meningioma, pituitary, or no tumor) and displays detailed results on a dedicated page, including explanations and advice.
- **Responsive Design**: The interface includes a sidebar for navigation and a progress bar to indicate analysis progress.
- **Accessibility Features**: Text visibility is optimized for light with high-contrast colors, and a "Back to Home" button allows users to return to the homepage after viewing results.

The application is on the GitHub page at the following URL: `https://github.com/TEYI-JEROME/Brain_Tumor_Image_Analysis`.

3 Presentation of the App

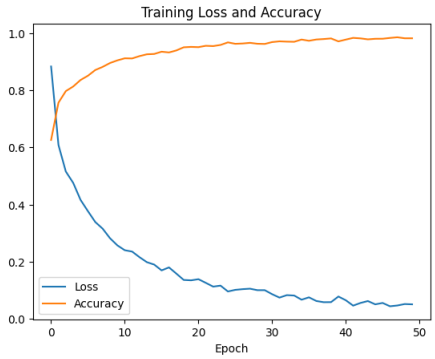


Figure 1: Tensorflow Model

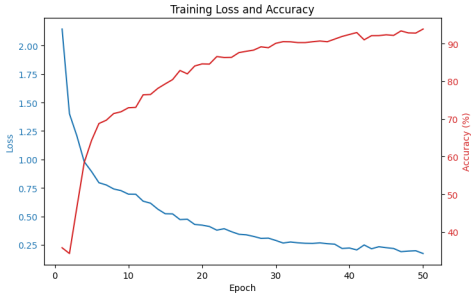
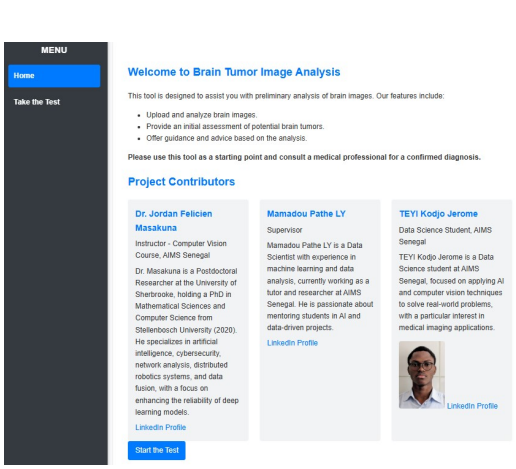
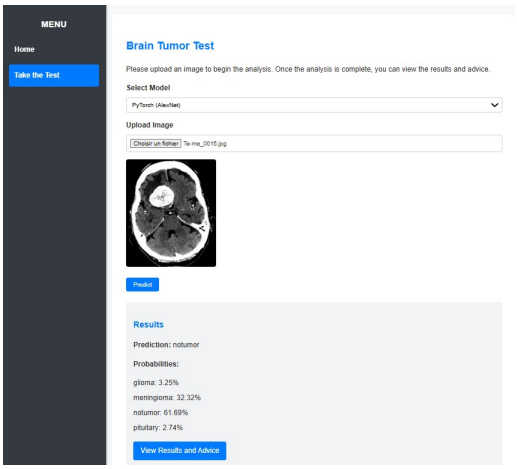


Figure 2: Pytorch Model



(a)



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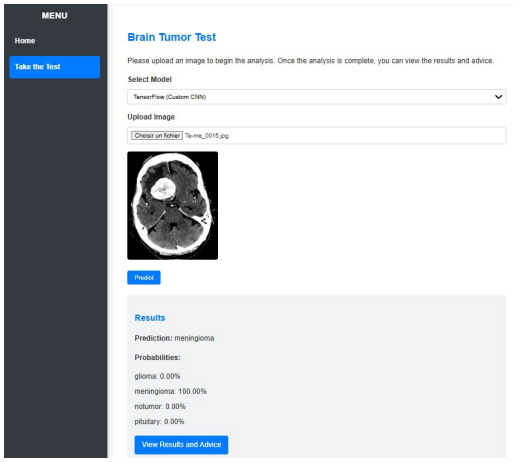
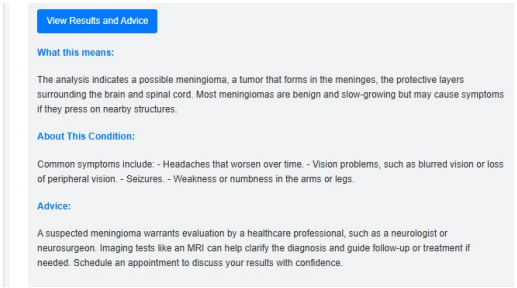


(c)



(d)

Figure 3: Presentation of our App.