NLP PROJECT

Topic: Object Detection and Explanation

Submitted To,

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Object Detection and Explanation

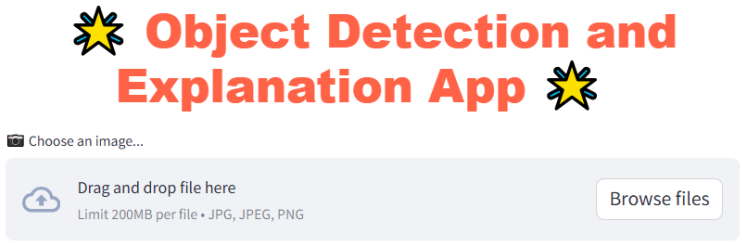
This project involves the development of an AI-powered Object Detection and Explanation application. The system integrates Google Gemini API, streamlining object detection from images and generating detailed explanations for each identified object. By employing an NLP-based Large Language Model (LLM), the application delivers text and audio outputs, creating a more intuitive user experience.The project leverages the power of deep learning models for image analysis and natural language generation to provide not only the identification of objects in images but also meaningful interpretations. Users can upload images, have the app detect key objects, and receive explanations in both text and audio formats. The application is built with Streamlit to ensure a sleek, modern UI that enhances user interaction.

Link of Deployed System

https://objectdetection-gh5htjpcp7euuvwzstvjuu.streamlit.app/

Screenshots

Interface of the system



Uploaded Image

🔍 Analyze Image

📋 Detected Objects:

The main objects in the image are a variety of fruits and vegetables. There are:

- papaya
- watermelon
- pineapple
- grapes
- cantaloupe
- kiwi
- mango
- starfruit
- pomegranate
- dates
- coconut
- dragon fruit
- oranges
- apples
- lemons
- limes
- a few unidentified fruits and vegetables.

📝 Explanation:

The main object detected in the image is a collection of various fruits and vegetables. There are many different types of fruits and vegetables, including papaya, watermelon, pineapple, grapes, cantaloupe, kiwi, mango, starfruit, pomegranate, dates, coconut, dragon fruit, oranges, apples, lemons, limes, and a few unidentified fruits and vegetables.

🎧 Audio Explanation:

▶ 0:00 / 0:32