IMAGE RECOGNITION

Image recognition is the task of identifying objects of interest in an image and identifying to which class the image belongs. Although various human vision simulation methods have been developed, a common goal of image recognition machine learning projects is classifying recognized objects into different classes, otherwise known as object detection.

HUMAN FACE DETECTION

Face recognition is a computer vision technology that is a subdomain of object recognition that tries to observe instances of semantic objects. Detection is a simpler problem to solve than recognition, so it makes a great beginner project.

The complexity of accurate human facial recognition arises from factors such as too many faces in images, odd expressions, illuminations, low resolution, face occlusion, skin color, and distance from and orientation to the computer.

CIFAR DATASET

Supervised classification: Select samples for each target class and train a neural network with these target class samples, then classify the new samples.

Unsupervised classification: Group sample images into clusters of images with similar features. Each cluster is then classified into the specified class.

PROJECT STEPS:

Design Thinking:

1. Image Recognition Setup: Set up the IBM Cloud Visual Recognition service and obtain the necessary API keys.
2. User Interface: Design a user-friendly interface for users to upload images and view the AI-generated captions.

3. Image Classification: Implement the image classification process using the IBM Cloud Visual Recognition API.
4. AI-Generated Captions: Integrate natural language generation to create captions for the recognized images.
5. User Engagement: Design features to allow users to explore, save, and share their AIenhanced images.

Phase 2: Innovation

Consider incorporating sentiment analysis to generate captions that capture the emotions and mood of the images

Phase 3: Development Part 1

Start building the image recognition system using IBM Cloud Visual Recognition.

Phase 4: Development Part 2

Continue building the image recognition system by integrating IBM Cloud Visual Recognition and AI-generated captions.

Phase 5: Project Documentation & Submission

Image Recognition Using the CIFAR Dataset