Workshop #2: **Object recognition, face recognition**

**Learning Outcomes:**

Upon successful completion of this workshop, you will have demonstrated the abilities to:

* Understand the knowledge of object detection, face recognition, Eigenfaces.
* Write a demo program for face detection: implement Eigenfaces method.

**Requirements:**

Object recognition is the ability to recognize an object. Object recognition consists of recognizing, identifying, and locating objects within a picture with a given degree of confidence. It is the ability to perceive an object’s physical properties (such as shape, color, and texture) and apply semantic attributes to the object. Facial recognition is a way of identifying or confirming an individual’s identity using their face. Facial recognition systems can be used to identify people in photos, videos, or in real-time. In this assignment, students are asked to write a simple face recognition program with Eigenfaces method. Details of the functions are described below:

**Function** 1: Function: Eigenfaces- This approach covers face recognition as a two-dimensional recognition problem. You are required to implement the Eigenfaces algorithm to perform face recognition in the input image.

Evaluation Criteria

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| --- | --- | --- | --- | --- |
| No | Criteria | Requires | Mark | Note |
| 1 | Write a program with graphics interface | - Create an application with an interface to perform mouse actions.  - Choose the input image  - Click recogniton button to recognize faces in the input image | 2 | Executed in the background when the program is running. |
| 2 | Function: Face recognition | Write a program for face recognition | 8 | Using mouse or keyboard |
| 3 | Total |  | 10 |  |