

## **Day 14: Python Training - Face Recognition Project (Data Collection Setup)**

### **Objective:**

Started building a GUI-based Face Recognition System using Python with OpenCV and Tkinter. The goal was to set up face data collection functionality through webcam.

### **Key Tasks Completed:**

- Imported required libraries: cv2, os, numpy, and tkinter.
- Set up GUI window using Tkinter to take user input for the name and trigger data collection.
- Used OpenCV's CascadeClassifier for real-time face detection.
- Implemented functionality to collect 30 grayscale face images per person and save them in a structured dataset folder.
- Added visual feedback (rectangle and count display) during data capture for better UX.
- Handled basic input validation and webcam error handling using messagebox.

### **Outcome:**

Successfully created a working interface that captures and stores facial images for training.