MICROSOFT ENGAGE 2022

FACE RECOGNITION

-use of face recognition technique in tracking attendance.

TECHNIQUE USED

❖Histogram of oriented gradients (HOG) – it is a feature descriptor used in computer vision and image processing for the purpose of object detection. The technique counts occurrences of gradient orientation in localized portions of an image. This method is similar to that of edge orientation histograms, scale-invariant feature transform descriptors, and shape contexts, but differs in that it is computed on a dense grid of uniformly spaced cells and uses overlapping local contrast normalization for improved accuracy.

IMPLEMENTATION

- I used following tools to implement this idea :

1. OpenCV-Python - **It is a Python wrapper for the original OpenCV C++ implementation**. OpenCV-Python makes use of Numpy, which is a highly optimized library for numerical operations with a MATLAB-style syntax. All the OpenCV array structures are converted to and from Numpy arrays.
2. Face recognition module
3. Numpy
4. Datetime module (in built)
5. OS module (in built)

TIPS FOR SMOOTH RUN

1. Install cmake and dlib library before installing face_recognition module if using python 3.7 and above versions.
2. Take care that path provided in the code is correct.
3. In line 45 of main.py file i.e, cap = cv2.VideoCapture(0), put 1 inside brackets if using external camera.


THANK
YOU