ABSTRACT

Title: Real-Time Face Recognition Attendance System

This project presents a real-time face recognition system designed to automate the process of attendance tracking. The system uses a combination of Python libraries, including face\_recognition and cv2, to capture video from a webcam, recognize faces, and record attendance in a CSV file.

The system begins by loading images of known individuals and encoding their facial features using the face\_recognition library. The known individuals in this case are “jobs”, “ratan”, “sadmona”, and “tesla”. The system then captures video in real-time from the default camera (camera 0) and processes each frame to detect and recognize faces.

The recognition process involves comparing the facial features in the video feed with the known encodings. If a match is found, the system marks the individual as ‘Present’ on the video feed and records their name along with the current time in a CSV file. This file serves as the attendance record for the session.

The system operates in a continuous loop, processing frames from the video feed until the user terminates the program by pressing ‘q’. Upon termination, the system releases the video capture and closes any OpenCV windows.

This face recognition attendance system demonstrates the potential of computer vision and machine learning in automating tasks traditionally requiring manual intervention, such as attendance tracking. It represents a significant step towards more efficient and accurate attendance systems.

Please note that this is a high-level abstract and the actual implementation may require handling additional details and edge cases. For instance, the system currently does not handle situations where the same individual appears multiple times in the video feed. Also, the system assumes perfect face recognition, which may not always be the case in real-world scenarios due to variations in lighting, pose, and other factors.