

Cloud Computing – 21X0A7

Abstract

Title - Cloud Enabled Attendance System with Face

Recognition Team Members:

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Introduction:

In today's digital age, the "Cloud-Enabled Attendance Using Face Recognition" project pioneers an innovative solution for attendance tracking. By integrating cloud computing and facial recognition, it promises real-time, accurate, and secure attendance management. This project aims to eliminate manual errors and proxy attendance issues while providing convenient accessibility for various stakeholders. Ultimately, it represents a transformative approach to streamline attendance tracking across diverse domains.

Tech Stacks:

Azure Blob Storage, Python, OpenCV.

Abstract:

The “Cloud-Enabled Attendance System with Face Recognition” Project using OpenCV in Python presents a robust and scalable solution for real-time face recognition. Leveraging the power of OpenCV, a versatile computer vision library, this project combines the capabilities of local image processing with cloud-based services to achieve efficient and accurate face recognition in various applications.

The training data set that contains the images of the clients to be identified is stored in a cloud based **Azure Blob Storage**. The model is trained using OpenCV's **Haar Cascade classifiers** to keenly record the attendance of the clients.

For each day a brand new csv file is generated automatically that marks the attendance of each employee or student.

Deployment Model	Public Cloud
Service Model	Infrastructure As A Service

Key components of the project include:

Local Image Processing: OpenCV is used to capture and preprocess images, reducing noise, and enhancing image quality for better recognition.

Face Detection: OpenCV's Haar Cascade classifiers identify and locate faces within images, enabling efficient cropping and alignment for analysis.

Feature Extraction: Extracting facial features such as landmarks, contours, and texture patterns is performed using OpenCV, enabling the creation of feature vectors.

Cloud-Based Recognition: The cloud server employs deep learning models for face recognition, comparing feature vectors against a database of known faces to identify individuals.