



Research on Implementation Face Recognition in Attendance Process

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INTRODUCTION

Face recognition technology or known as face recognition currently plays an important role in the presence automation process, aiming to verify a person's identity, facial recognition technology has undergone large-scale improvements,

OBJECTIVES

The Impact of Face Recognition allows users to mark attendance with the face recognition feature, to alternate presence with face, and no need anymore biometric or manual attendance, face recognition helps people to present effectively, Although some research on paper findings outline algorithms to be applied in the attendance process with a screening at the beginning before the absence, For example, students or employees can utilize convenient presence with face detection and recognition before manual attendance or biometric, cause biometrics is less efficient, especially in covid-19 endemic, attendance play significantly for academic, industry or many others.

CONCLUSION

With a comparison of a brief overview of the various applications of face detection algorithms, as well as face recognition, this provides a perspective on the results of the implementation that has been carried out in previous research, that overall it is very good, especially the comparison from training data to test data goes well, but it would be nice to be given an enhance percentage for facial accuracy or it can be added with a barcode system, so that it is not only reliable but also secure in validating an input data, so that it is hoped that it can replace manual attendance activities into an automatic system, where the ultimate goal is to become a data reference required for submission transactions in the form of leave, overtime to payroll.

REFERENCES

[1] Dhivya s, Gayathri D, Preethika K R. 2018. Face Recognition System For Time And Attendance Management in Corporates. International Journal of Pure and Applied Mathematics. Volume 119 No. 10. 1843-1849

[2] C. Kalpana, S.Hemavathi, K.Geerthana, et all. 2020. Attendance Maintaining and Monitoring using Face Recognition. International Research Journal of Engineering and Technology. Volume-9 Issue-6

[3] Amit S Pawar1, Shubham S Patil2, Kaustubh A Rai3, et all. 2020. Automated Attendance System Using Facial Recognition. International Research Journal of Engineering and Technology (IRJET). Volume: 07 Issue: 03

[4] Mayur Surve, Priya Joshi, Sujata Jamadar, et all. 2020. Automatic Attendance System Using Face Recognition Technique.International Research Journal of Engineering and Technology. Volume-9 Issue-1

[5] Subramaniam Hema, Hassan Marina, Widyarto Setyawan, 2013. Barcode Scanner based student attendance system (sas)

[6] Dewi Noviana, Widyarto Setiawan, 2020. Face Recognition Technique in Digital Image Processing. Volume-6 Issue 10



Source Information	Dhivya s, Gayathri D, Preethika K R (2018)	C. Kalpana, S.Hemavath, K.Geerthana, et all (2020)	Amit S Pawar, Shubham S Patil, Kaustubh A Rai, et all (2020)	Mayur Surve, Priya Joshi, Sujata Jamadar, et all (2020)
Research Topic / Question	Face Recognition System for Time And Attendance Management in Corporate	Attendance Maintaining and Monitoring using Face Recognition	Automated Attendance System Using Facial Recognition	Automatic Attendance System Using Face Recognition Technique
Methodology	PCA (Principal Component Analysis) Analysis Technique with Eigenface Algorithm	LBH (Local Binary Pattern Histogram) Recognition Technique	Haar-Cascade Classifier Algorithm	Haar-Cascade Algorithm and Adaboost Classifier
Findings	To get Accuracy and detect face recognize attendance system	Facial recognition technique & LPBH mechanism until to visualized data into histogram	Three classifier : skin, mouth & eyes classifier, human skin hue histogram matching, evolution from Viola-Jones	Accuracy Face Recognize, detect for multiple face user and can stored id and name with date and time
Limitations	Recognize the faces detected with a high accuracy rate with PCA. But not to explain accuracy rate, sample image, and threshold	Represented image with LBPH Histogram, create data train still from another system, that is visual studio, not yet one unit with the web	Weak of classifier can be failed to process identifying and recognized, while insufficient light and also crashes when more entries are made into database.	Live Image with PIR Distance Arduino and detected also motion object, able to capture images from 60-80cm very accurately distance but no explain how to rate percentage accurately
Area For Future Research	add Validation delivered system, the future development of face recognition, it should be capable of detecting any faces under any light conditions.	Some other advanced machine learning can be used to complement algorithm, for the feature to enhance on the side about the alert, working hours and calculation can be added, maybe adding distance tolerance to absence or accuracy percentage	Precise Object for recognition with adding classifier or algorithm to complement week classifier.	Face Recognition with PIR Sensor, compare the image with database and good for capturing a live image, better-adding classifier human skin for more accurately with the percentage (%).
Related features research on Face Recognition	The system can be capable of detecting any faces under any light conditions	capturing the face future can be integrated into Mobile Devices and manage the transaction for leaves, overtimes and shift with LBPH and percentage of accuracy image	2 Classifiers based on eyes and mouth must be accurately, however, if their people have blind though skin color is suitable, can be rejected, there should be another method that gives a tolerance for blind	We suggest that future research be completed with a Temperatur sensor, on the situation endemic covid19 now, live motion detected can be better, if there's have a temperature sensor like LM35 and others