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Smart Attendance System via Facial Recognition Using Tensorflow Facenet Model

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**SMARTATTENDANCE SYSTEM VIA FACIAL RECOGNITION
USING TENSORFLOW FACENET MODEL**

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This thesis was prepared under the direction of thesis supervisor, Encik Ahmad Firdaus bin Ahmad Fadzil. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science (Hons).

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STUDENT'S DECLARATION

I certify that this report and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledge in accordance with the standard referring practices of discipline.

A handwritten signature in black ink, consisting of stylized initials and a surname, is written over a solid horizontal line.

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ABSTRACT

Student absenteeism problems are often a major issue for every school and are often associated with low student scoring status. This can be attributed to the weakness of the current method of taking attendance which used a sheet of paper. The system is developed to improve the current attendance system where several problems appear during the school attendance taken. For example, the student deceived their attendance, time consuming for waiting to sign the attendance and the lack of ability to track the absence of many students. This system can give better support and help the teacher's work on the attendance. Popularity of biometric recognition where human unique physical body as a measurement access control for identification and authorization has led to the development of Smart Attendance System using facial recognition. An identification system is used to digitally verify a person by comparing each known face and information corresponding to the database. The Tensorflow Facenet model is the technique used for the recognition where it's called as one shot model where directly learning and mapping the face images into Euclidean space where distances are used to calculate the similarity of faces. With the facial recognition feature, this system can easily manage and automate taking attendance and safely record it in the database.

Keywords: Attendance, Tensorflow, Facenet, Face Recognition, Python, C#

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