

Late Checker – Real-Time Attendance System Using Face Recognition



UNDERGRADUATE THESIS

Submitted as one of the requirements to obtain

Sarjana Komputer (S.Kom.)

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ABSTRACT

Late Checker is a real-time attendance tracking system that uses face recognition technology to record employee presence through live video surveillance. This system was developed to reduce manual attendance processes and provide a more efficient and contactless solution. It consists of a web-based interface for administrators and a facial recognition module that automatically identifies individuals from camera feeds and logs their arrival times.

The AI component of this project focuses on detecting and recognizing faces using Python-based libraries such as OpenCV and face_recognition. The system captures face images, encodes them into numerical data, and matches them against a trained dataset. Once a face is successfully identified, the attendance is logged into the system in real time.

This project was built using Flask for the backend, ReactJS for the frontend, and PostgreSQL as the database. It aims to provide a practical and scalable solution for attendance monitoring in office or classroom environments. Throughout the development, several challenges related to lighting conditions, recognition accuracy, and real-time performance were addressed. The final product demonstrates how AI can be applied effectively to solve everyday administrative tasks.

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