IMPLEMENTATION OF FACE RECOGNITION FOR ATTENDANCE SYSTEM AT BRASS UNIVERSITY USING CONVOLUTIONAL NEURAL NETWORK (CNN)

SYAHRUL GUNAWAN RAMDHANI
Program Studi Informatika, Fakultas Sains & Teknologi
Universitas Teknologi Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail: syahrulgr@gmail.com

ABSTRACT

This study examines the attendance system currently employed at Kuningan University, which relies on a manual process involving conventional signatures. The existing attendance method is deemed ineffective as it consumes valuable lecture time and poses challenges for academic administration and campus data management. In response to these issues, the study proposes an attendance system utilizing facial recognition technology, which serves as a computerized identity verification mechanism. The development of this facial recognition model is based on the Convolutional Neural Network (CNN) algorithm, specifically designed for processing data with grid patterns, such as images. The findings of this research indicate that the CNN-based facial recognition model achieves a training accuracy of 99.85% and is capable of recognizing student faces with a recognition accuracy of 96.99%. While the system performs effectively under adequate lighting conditions, it encounters difficulties recognizing faces in low-light environments.

Keywords: Face recognition, Attendance, Convolutional Neural Network, Face classification.