

Intelligent Attendance System with Face Recognition using the Deep Convolutional Neural Network Method

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ABSTRACT

Recording student attendance in lectures can be done in several ways, namely giving initials on the attendance sheet or by the lecturer calling each student and then giving a check mark on the attendance sheet or attendance recording system. This method is inefficient because it is done repeatedly at every meeting, resulting in reduced time used for lecturing. Some researchers are trying to develop various methods to overcome this, such as using fingerprints, Internet of Things devices, cards with RFID technology, QR codes, and smartphones. However, these technologies require many devices, and they may be costly. The purpose of this research is to develop an intelligent attendance system with facial recognition technology that can identify many people simultaneously without having to make direct contact using the Deep Convolutional Neural Network method. The system is then tested and analysed for its accuracy in identifying and recording student attendance. The results of research conducted on 16 students in a lecture show that the system can be used to record student attendance with an accuracy of 81.25% in the condition that the student facing forward, 75.00% in the student condition facing sideways, and 43.75% in the student condition facing down.

Kata Kunci: smart attendance, artificial neural networks, deep convolutional neural networks