

## ABSTRACT

*An efficient and accurate attendance system is crucial for Telkom University Surabaya to enhance the effectiveness and speed of faculty attendance management. Traditional attendance methods, such as QR Code, often encounter various challenges, including prolonged processing time and frequent system errors. To address these issues, this study aims to develop an attendance system based on face recognition technology using the YOLOV8 algorithm. The focus of this research is to compare the accuracy and efficiency between the face recognition-based attendance method and the QR Code system. The study was conducted using the Research and Development (R&D) method, which involved several stages: literature review, system design, simulation, and implementation. The results of the study show that the face recognition-based attendance system with YOLOV8 achieved a speed improvement of up to 57.12% compared to the QR Code-based system, with face detection accuracy reaching 88.5%. This research significantly contributes to the development of a more efficient and accurate attendance system, offering a more modern and effective alternative for managing faculty attendance at Telkom University Surabaya. The implementation of face recognition using YOLOV8 can be a superior solution in enhancing the efficiency and accuracy of attendance systems in educational institutions.*

*Keywords: AI, Attendance System, CNN, Python, YOLOV8.*