INFORMATION SYSTEM FOR MONITORING THE PRESENCE OF LECTURERS AND STAFF IN THE ELECTRICAL ENGINEERING BUILDING AT POLBENG USING FACE LIVE RECOGNITION

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ABSTARCT

An information system for monitoring the presence of lecturers and staff is essential to support academic and administrative activities on campus. This study developed a monitoring system for tracking the presence of lecturers and staff in the Electrical Engineering Building of Politeknik Negeri Bengkalis using the face live recognition method. The system utilizes two ESP32-CAM cameras and the Haar Cascade Classifier algorithm processed through Python software. The first camera detects individuals entering the building and displays their data in the present list, while the second camera detects those exiting and displays them in the not present list. The displayed data includes a photo, serial number, name, and time of entry, shown via a Python-based Graphical User Interface (GUI). Testing results show that the system can recognize faces in under 3,5 seconds at a distance of 30–55 cm. However, the 2 MP resolution and 10 – 15 fps frame rate limit performance under poor lighting conditions. Despite these limitations, the system operates in real-time and presents presence data without requiring physical interaction. This system is expected to provide an effective, accurate, and efficient solution for real-time presence monitoring and can be further developed into a biometric-based attendance or security system.

Keywords*: Face live recognition, ESP32-CAM, Haar Cascade, Lecturer and Staff Presence, Python, Monitoring*