ABSTRACT

The development of urban mobility and the growth in the number of motorized vehicles have created significant security challenges in managing parking areas. In this context, the use of Automatic License Plate Recognition (ALPR) technology and object detection emerges as a potential solution. Through the implementation of a smart camera system equipped with number plate detection and object detection, this research aims to reduce the risk of human error in recording parking data and prevent illegal parking.

In answering this problem, this research offers a solution in the form of developing a smart camera system that is able to detect the presence of vehicles and recognize number plates with a high level of accuracy. Through the integration of ALPR and object detection, this system is expected to be able to overcome obstacles that arise in parking management, increase efficiency, and effectively prevent illegal parking. The implementation of automatic barriers, access cards and integrated CCTV monitoring will further strengthen the security of the parking area.

With the research results, the proposed smart camera system succeeded in achieving vehicle and license plate detection accuracy levels above 90%. The quantitative and qualitative data collected supports the effectiveness of this solution in improving parking management and parking area security. In conclusion, this research makes a positive contribution in facing security challenges in cities through the use of advanced technology, opening up the potential for widespread application in the context of continuously developing urban mobility.

Keywords: *object detection,optical character recognition,face recognition,automaticlicense plate recognition*