

## ABSTRACT

### SIMULATION OF CAR PARKING LOT AVAILABILITY DETECTION AT THE DARMAJAYA INSTITUTE OF INFORMATICS AND BUSINESS USING AERIAL-IMAGE PROCESSING

By:

**PUTRI OKTAVIA LEGINA**

[putrilegina.2011010046@mail.darmajaya.ac.id](mailto:putrilegina.2011010046@mail.darmajaya.ac.id)

This article proposes a framework for detecting available parking spaces for cars using aerial images. It reviews existing methods and their limitations. The proposed framework used deep learning models to accurately identify vehicles and parking spaces in images. It included image segmentation, spatial-temporal analysis, and real-time updates to provide up-to-date parking availability information to drivers. The authors conducted experiments to determine the optimal blockSize value for their simulation system, achieving 99% accuracy. This framework has potential applications in smart parking management systems to reduce traffic congestion. Future work could address environmental factors, privacy concerns, and vehicle integration.

**Keywords** – Car Parking Detection, Aerial Image Processing, AI-based Detection, Detection Algorithm

