

Application of deep learning model combining object detection and segmentation in intelligent traffic monitoring problems

Triệu Văn Cường

Abstract: The research topic focuses on modern traffic management solutions by combining object detection (YOLO) and instance segmentation (Mask R-CNN). The system not only counts and classifies vehicle types (motorcycles, cars, trucks) but also accurately identifies vehicle shapes to handle occlusion scenarios. The study addresses traffic flow monitoring, lane violation detection, and supports automated traffic regulation. Experiments show the model operates stably under various lighting conditions and traffic densities.

Keywords: Traffic monitoring, Instance Segmentation, Mask R-CNN.

References

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