

Title: A Comparative Study of CNN-Based Object Detection Models

Abstract:

This research analyzes single-stage and two-stage object detection models using a benchmark image dataset.

Introduction:

Object detection identifies and localizes objects within images using bounding boxes.

Methodology:

Evaluated Faster R-CNN (two-stage model).

Evaluated YOLO (single-stage model).

Compared inference speed and detection accuracy.

Results:

YOLO achieved faster inference.

Faster R-CNN produced higher accuracy.

Conclusion:

Model selection depends on application requirements between speed and accuracy.