

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

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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.

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