The YOLOv5 model produces results with an exceptionally good visualization function.This study shows that the TSR in the YOLOv5 experiment is remarkably accurate.The definitions of "road bump," "cross walk," "give way," and "no entry" are given in detail in this document. The "No U-turn" method produced the lowest precision of 0.94. Almost eight classes have values that are all over 90.00%, demonstrating YOLOv5's exceptional TSR performance in our dataset.

Paper link: <https://link.springer.com/article/10.1007/s11042-022-12163-0>

In this paper, Objects that may be a risk to the safety of an autonomous vehicle when driving on a road are classified as hurdles, cars, and passengers.The advantage of YOLOv4, a typical one-stage detector technique, is its quick detection speed.

Paper link: <https://www.sciencedirect.com/science/article/pii/S2405959521001818>

In this paper for object detection experimentation,there are three types of photos utilized process: 409 for training, 46 for validation, and 51 for testing.Important metrics that show how accurately object detection algorithms recognize objects are 𝐴𝑃 and 𝑚𝐴𝑃. The accuracy of the YOLOv4 model is 93.97%, while YOLO-GD obtains 97.38%, with the larger the value of 𝐴𝑃 or 𝑚𝐴𝑃.

Paper link: <https://www.mdpi.com/2075-1702/10/5/294>

This is mainly a review paper.The three stage object detectors—RCNN, Fast-RCNN, and Faster-RCNN—as well as their significant applications were studied in this paper.This research reviewed in detail single stage object detectors, in particular YOLOs objects, their architectural developments, and their loss function.

Paper link: <https://link.springer.com/article/10.1007/s11042-022-13644-y>

This is a review paper that compare the performance of various object detectors on PASCAL VOC 2012 and Microsoft COCO datasets. Those models are compared on average precision (AP) and processed frames per second (FPS) at inference time. This paper intentionally compare the performances of detectors on similarly size input image, where possible, to provide a reasonable account.

Paper link: <https://www.sciencedirect.com/science/article/pii/S1051200422001312#fg0060>