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Object Detection for Autonomous Vehicles Using YOLO Algorithm

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Abstract: *The YOLO (You Only Look Once) algorithm is a real-time object recognition system that classifies objects as regression problems and predicts bounding boxes and class probabilities directly from the whole image in analysis. It is known for its speed and accuracy in real-time object detection. One of the best detection systems in autonomousvehicles is YOLO (You Only Look Once). It predicts bounding box and class probabilities from the entire image in a single evaluation using the same convolutional neural network. It works well in real-time applications such as autonomous driving dueto its high-speed capability. YOLO's one-step detection pipeline streamlines the process and reduces the computational burden. As a result, drivers and other road users are safer and have better situational awareness and decision-making skills.*

Keywords: YOLO algorithm, Autonomous driving, Bounding box, Objectidentification