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| Title | Road sign detection using variants of yolo and r-cnn: An analysis from the perspective of bangladesh | | |
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| Abstract |  |
| Road sign detection represents a feature that assures the safety of drivers, vehicles, and pedestrians by efficiently detecting road signs. This feature is designed to notify drivers about road signs whether he is missing the signs or not. This detecting and recognizing feature of the road signs’ has improved a part of the advanced driver assistance system (ADAS). ADAS is an automated technology containing cameras and sensors intended to help the drivers with road signs, while traveling to a new road or having no knowledge about road signs. Before the work analysis, this topic has shown formidability as it has a real-time processing solution. This paper analyzed seven architectures for detecting the road signs: YOLO, YOLOv2, YOLOv3, PP-YOLO model and R-CNN, Fast R-CNN, Faster R-CNN. We have built a dataset based on Bangladesh's road sign named the “BD Road Sign 2021 (BDRS 2021)” dataset to evaluate the architectures. This dataset contains 16 categories (16 types of road-sign), and each has 168 images. Finally, we applied the seven advanced architectures to find the effective one to detect Bangladesh's road signs. This study implies that YOLOv3 and Faster R-CNN perform comparatively better for road sign detection. | |