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Title:
Anomaly Vehicle Detection Using Deep Neural Network

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Abstract:
This project is focusing more on educational purposes. The number of vehicles keeps increasing on the road since almost all people have a personal vehicle. However, tally with the increment of the vehicles on the road, the case of accidents on the road also increases and this makes the road not safer for being used even with extra care. Accidents are caused by people that are careless and do not follow the traffic law on the road. This project is proposed to detect and classify the anomaly vehicle since the anomaly vehicle leads to vehicle accidents on the road. The primary objective is to develop a video processing algorithm to detect and classify vehicles. The objective also extends to construct an anomaly vehicle detection algorithm and propose an alert system for anomaly vehicle detection using a deep neural network. The vehicles are detected using algorithms developed using the python programming language, along with few open-source libraries, namely, OpenCV and the Visual Studio code. A convolutional neural network is used for image processing to reframe and resize the image thus train the image for detection. The bounding box was drawn by using the YOLO object detection method. The data is visualized using the Orange3 software found in the Anaconda python distribution. The Orange3 software is also used for machine learning and data analytics which is used to identify the anomaly vehicle.