Software Development for an Intelligent Autonomous Vehicle

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Carla Object Detection
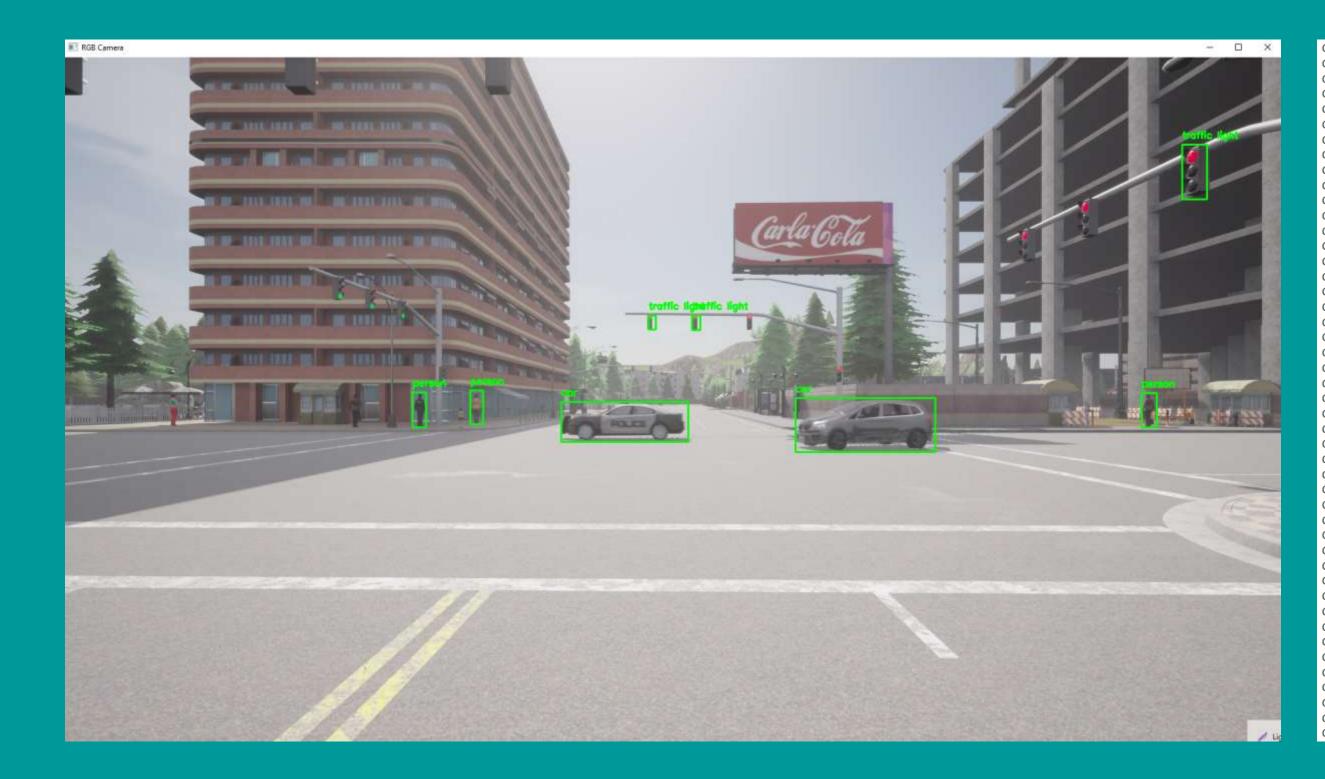## Oz Yosef, Ofir Sered
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- ## Introduction
  We programmed an object detection algorithm in Carla which detects vehicles, bicycles, traffic lights, traffic signs, and pedestrians. The algorithm forms bounding boxes around each detected object and states the classified object above the box with a title.

- ## Measurements
  We programmed an algorithm which involves lidar sensors that prints distance-keeping from vehicles and calculates the velocity based on the distance from the object ahead.

- ## Calculations
  We calculated the combined point clouds which the lidar sensors accumulated, afterwards we downsampled them as done in real life to avoid handling too much data.

- ## Conclusions
  The project achieved its goals of accurate object detection and efficient radar-based distance measurement in Carla. The results met expectations, demonstrating realistic and reliable performance.

- ## Discussions
  Future development could involve real-time map-creating via the coordinates from the lidar point cloud