

Vehicle with Multiple Light Detection and Ranging devices (LIDARs)**ABSTRACT**

A vehicle is provided that includes one or more wheels positioned at a bottom side of the vehicle. The vehicle also includes a first light detection and ranging device (LIDAR) positioned at a top side of the vehicle opposite to the bottom side. The first LIDAR is configured to scan an environment around the vehicle based on rotation of the first LIDAR about an axis. The first LIDAR has a first resolution. The vehicle also includes a second LIDAR configured to scan a field-of-view of the environment that extends away from the vehicle along a viewing direction of the second LIDAR. The second LIDAR has a second resolution. The vehicle also includes a controller configured to operate the vehicle based on the scans of the environment by the first LIDAR and the second LIDAR.

Figure 5