

ABSTRACT

A system for detecting a surrounding object may receive, from a camera, a first image including a plurality of pixels relating to one or more objects and receive, from one or more LiDARs, a first point set including a plurality of points corresponding to the plurality of pixels. The system may also, based on the first point set, determine 3D coordinates and reflection intensities of the plurality of points, based on which the system may generate a segment result by classifying the plurality of points. The system may further transform the 3D coordinates of the plurality of points into 2D coordinates and determine an object type of the one or more objects based on the 2D coordinates, the 3D coordinates, the segment result, and the first image.

(Fig. 4)