Title

Lidar data processing for object detection and tracking

Presenter

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Abstract

Lidar is one of the most reliable sensors used for robotics perception and autonomous navigation. Its output can be used for both self-awareness and situational awareness. For example, a Lidar point cloud can be processed to estimate the ego vehicle's motion, and detect and track nearby objects.

In this video the presenter will walk you through two examples that show how to detect, classify, and track vehicles by using lidar point cloud data captured by a lidar sensor mounted on an ego vehicle. The lidar data is recorded from a highway-driving scenario.

The examples illustrate the workflow in MATLAB® for processing the point cloud and tracking the objects. The point cloud data is segmented to determine the class of objects using the PointSeg network. A joint probabilistic data association (JPDA) tracker with an interactive multiple model (IMM) filter is used to track the detected vehicles.

Bio

Marco Roggero is a senior application engineer at MathWorks Germany, focused on automated driving, signal processing, and communication. He is particularly invested in application of methods to support the Safety of the Intended Functionality standard. He holds an M.Sc. from Polytechnic of Milan.