

3D Object Creation and Extraction from Single Cam LiDAR Point Cloud: Autonomous Vehicles

Organization Name: HERE TECHNOLOGIES

Overview:

Processing data dimensions is the path towards optimum utilization of the data one has. This is truer for spatial data like LiDAR or imageries that captures information of the real world in all three dimensions- X, Y and Z. However, LiDAR data itself is a costly and a time-consuming affair- right from the process of its collection till information extraction. This, thus inhibits wide spread optimal exploitation of the data, limiting innovation. HERE aims to address this issue and make a cost effective and faster method of LiDAR processing that will increase the consumption of the LiDAR data and enable the autonomous vehicle market with rapid and futuristic development

Current Challenges

Currently, there are various processes in place to extract 3-dimensional information from LiDAR in an automated way. However, the input for these processes require cost intensive 360 degree or multi cam collection of LiDAR point cloud. The proposal is to work on algorithms that will be able to extract 3D objects from single cam or one directional LiDAR camera. This includes automated 3D bounding box creation around objects in LiDAR point cloud collected via single cam and/or single directional camera (unlike KITTI dataset).

Business Requirements:

- LiDAR data is a costly and a time-consuming affair- right from the process of its collection till information extraction. This, thus inhibits wide spread optimal exploitation of the data, limiting innovation
- Processing data dimensions is the path towards optimum utilization of the data one has. This is more-true for spatial data like LiDAR or imageries that captures information of the real world in all three dimensions- X, Y and Z
- Make a cost effective and faster method of LiDAR processing that will increase the consumption of the LiDAR data and enable the autonomous vehicle market with rapid and futuristic development

We are looking for startups who has the domain knowledge of LiDAR data, different tools related to the LiDARs, working knowledge of LiDAR extraction and visualization. The algorithms once designed and successfully applied, will enable to leverage the use of LiDAR data by multiple folds, especially for the autonomous vehicle market.