Automatic Segmentation of Lidar Data

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Abstract

Topographical technology by Airborne LIDAR Light Detection and Ranging with a density of several points per square meter LIDAR data processing information in automatic way and especially in urban areas from LIDAR in computer vision it is also a necessary step for implementation of interpretation of LIDAR data. Therefore there is recently an increas[ing] literature. The problematic discussed in this article lies in the dif[ferent] a specified layer of information construction vegetation roads lid... aim of this study is to provide a set of automatic segmentation techn[iques] propose a methodology to classify LIDAR data with a maximum degree of au[tomatic]

Keyword: Segmentation, LIDAR, 3D Point cloud, Classification

The use of Automation can be conduct[ed] categorized on the basis of type of di[fferent]

• The first is based on the point clo[ud] other sources of information

Introduction

For a long time scientists are studying methods of data collection as well as their representation. The advent of LIDAR system has allowed the collection of a significan[t] number of points in three dimensions a very short time.

LASER airborne systems are active sensor that incorporate a mechanism for direct georeferencing coupled Inertial GPS light pulses emitted providing a dense 3D point cloud that faithfully represents the topography scanned which requires a careful and powerful treatment.

Segmentation or automatic classification of 3D LIDAR data from urban scenes has a very important role in the scientific community given its importance for modeling an urban scene as it can significantly reduce the resources required for data analysis and 3D modeling of cities.

Processing LIDAR point cloud in an automatic way by special algorithms permits to generate plans in an instant way.

State of the Art

The first result of processing LIDAR data is the segmentation of the point cloud into two main classes ground and above ground. This segmentation can be obtained by using other sources of information such as 3D cadastral data the signal intensity or just based on the data X Y and Z.

A good segmentation result does not necessarily allow a good segmentation result. We propose through this paper a study of the state of the art of different segmentation methods proposed in the literature.

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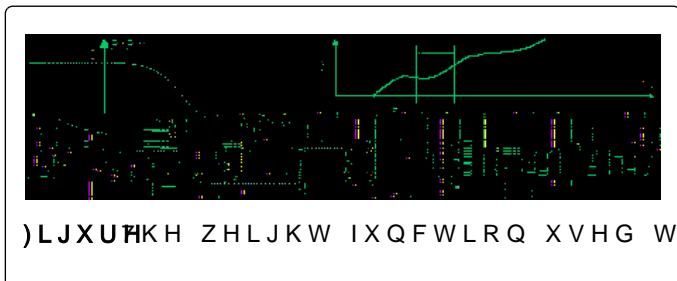
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