

Classification of LiDAR Point Cloud Using Machine Learning Classifier Approach

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Abstract : Lidar data is very needed in the development of knowledge today. Airborne LiDAR (Light Detection and Ranging) is a relatively new technology that measures distance or range and determines the 3D coordinates of points by pulsing a laser to the earth's surface. Its utilization includes the establishment of building footprint extraction and also for 3D city modelling. Classification is a stage that must be passed in processing of Lidar data. There are several methodologies for classify of lidar point cloud. The purpose of this study was to discuss the Lidar point cloud classification with a machine learning classification approach. This method is done by performing several stages of processing from 3D point cloud data : neighborhood selection, feature extraction and classification. The result of this data processing data is the classified lidar data and labeled 3d point cloud. The proposed approach led to successful classification results of buildings, vegetation and road classes.

Keywords: Classification, LiDAR, machine learning, selection