

## **Thesis:** A Survey on Deep Learning on Point Clouds for 3D Object Detection

**Abstract:** Deep learning has recently boosted the performance of 2D object detectors in both accuracy and speed. With the development of 3D-based applications such as autonomous driving, robotics navigation, and Augmented Reality we need efficient and reliable 3D object detectors to provide accurate location and dimension information in the 3D settings. As large amounts of 3D data have become available 3D object detection using point cloud data with deep neural networks has also gotten good results. This paper is a survey of deep learning on point clouds for 3D object detection. In this paper, we first give an introduction to the basic concepts. Then we will introduce 2D and 3D object detection methods and how they evolve. Finally, we will conclude by proposing promising research directions according to the reviews of the detection methods.

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