# Research Advanced in Object Detection based on Deep Learning

## Abstract Object detection has always been a fundamental research topic in the computer vision community, which focuses on predicting the category and location of all objects in the scene. In the last several years, progressing from the rapid development of deep learning, the speed and accuracy of general object detection methods have also achieved significant breakthroughs. This paper aims to report the latest research progress in the field of object detection based on deep learning to inspire and promote subsequent research. Specifically, this paper systematically introduces the research progress of predecessors from four aspects: dual-stage, single-stage, Transformer-based, and key point, including the design ideas and basic processes of representative algorithms. Additionally, this paper quantitatively compares the performance of different methods on common datasets to further distinguish the benefits and disadvantages of different...