A survey on deep learning-based object detectionalgorithms for drones

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Abstract : Unmanned Aerial Vehicles (UAVs) are being used in a very large number of applications. Building an intelligent UAVis a very exciting and challenging topic. Recently, deep learning and computer vision are highly used for the purpose of realizing a fully-autonomous drone that does not need human intervention. Computer vision is a field focused on enabling drones to interpret and understand the content of an image or a video using Convolutional Neural Networks (CNNs). This paper focuses on reviewing recent deep learning-based object detection algorithms used for UAVs. We will discuss the most important research papers and techniques which helped improve the object detection state-of-the-art for drones. Finally, we will conclude this reviewing with a description of the main challenges for the application of deep learning for drone-based solutions.

Keywords : Computer vision, UAV, Deep Learning, Object Detection, Convolutional Neural Network