

Deep Learning for Computer Vision: A Brief Overview of YOLO

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Abstract: *Inspired by the brain, deep neural networks (DNN) are thought to learn abstract representations through their hierarchical architecture. However, at present, how this happens is not well understood. Deep learning has been overwhelmingly successful in computer vision (CV), natural language processing, and video/speech recognition. In this paper, our focus is on the CV. We provide a critical review of recent achievements and methods of in terms of techniques and applications. We identify eight emerging techniques, investigate their origins and updates, and finally emphasize their applications in four key scenarios, including recognition, visual tracking, semantic segmentation, and image restoration. A brief account of their history, structure, advantages, and limitations is given, followed by a description of their applications in various computer vision tasks, such as object detection, face recognition, action and activity recognition, and human pose estimation. Finally, a brief overview is given of future directions in designing deep learning schemes for computer vision problems and the challenges involved therein.*

Keywords: Deep Learning, Computer Vision, Convolutional Neural Network, Yolo

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