World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:16, No:02, 2022

Image Classification with Localization Using Convolutional Neural Networks

Authors : Bhuyain Mobarok Hossain

Abstract : Image classification and localization research is currently an important strategy in the field of computer vision. The evolution and advancement of deep learning and convolutional neural networks (CNN) have greatly improved the capabilities of object detection and image-based classification. Target detection is important to research in the field of computer vision, especially in video surveillance systems. To solve this problem, we will be applying a convolutional neural network of multiple scales at multiple locations in the image in one sliding window. Most translation networks move away from the bounding box around the area of interest. In contrast to this architecture, we consider the problem to be a classification problem where each pixel of the image is a separate section. Image classification is the method of predicting an individual category or specifying by a shoal of data points. Image classification is a part of the classification problem, including any labels throughout the image. The image can be classified as a day or night shot. Or, likewise, images of cars and motorbikes will be automatically placed in their collection. The deep learning of image classification generally includes convolutional layers; the invention of it is referred to as a convolutional neural network (CNN).

Keywords : image classification, object detection, localization, particle filter
Conference Title : ICDIP 2022 : International Conference on Digital Image Processing
Conference Location : Tokyo, Japan
Conference Dates : February 24-25, 2022

Open Science Index, Computer and Information Engineering Vol:16, No:02, 2022 publications.waset.org/abstracts/139288/pdf