Efficient Shelf Monitoring System using Faster- RCNN

In the fast paced world of today where marketing and advertisement is at its peak, an effective inventory management is essential for success. Remote Inventory management is traditionally done through Image processing methods in which the images of the shelves are taken and then processed to find the missing objects. This process creates a new set of problems relating to customer privacy. While a majority of the works concentrate on finding the missing objects, this article aims to detect the absence of objects or empty shelves, without disclosing the identity of the customers. Along with this the location of the empty shelf is also pointed out. This work uses the pre trained model Faster RCNN to detect empty regions of shelves of a retail store. Results of the simulation show an accuracy of 99% thereby indicating the use of this method for industrial deployment.