IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 5, April 2023

Survey Paper on Real-Time Object Detection

Pratik J. Rangari[1], Chandrakant Pandit[2], Pallavi A. Tayade[3], Mahesh P. Konde[4], Shivani Sable[5], Prof. Dipali A. Sananse[6]
U.G. Students, Department of Computer Science and Engineering[1,2,3,4,5]
Assistant Professor, Department of Computer Science and Engineering[6]
Jawaharlal Darda Institute of Engineering and Technology, Yavatmal, Maharashtra, India

Abstract: *Object detection is one of the most important and challenging branches of computer vision, which has been widely applied in people's lives, such as monitoring security, autonomous driving, and so on, to locate instances of semantic objects of a certain class. Conventional object detection algorithms were primarily derived from machine learning. This involved the design of features for describing the object's characteristics followed by integration with classifiers. In recent years, the application of deep learning (DL), and more specifically Convolutional Neural Networks (CNN) has elicited great advancement and promising progress and has, therefore, received much attention on the global stage of research about computer vision.*

Keywords: Real Time, Machine Learning, Object Detection, Neural Networks, RCNN, SSD, Caffe model, COCO Dataset.

REFERENCES

[1]. Mansoor, A., Porras, A. R., and Linguraru, M. G. (2019). "Region proposal networks with contextual selective attention for real-time organ detection," in 2019 IEEE 16th international symposium on biomedical imaging (ISBI 2019), (Venice: IEEE), 1193–1196. doi: 10.1109/ISBI.2019.8759480

[2]. Chen, Y., Li, W., Sakaridis, C., Dai, D., and Van Gool, L. (2018). "Domain adaptive faster R-CNN for object detection in the wild," in Proceedings of the IEEE conference on computer vision and pattern recognition, Salt Lake, UT, 3339–3348. : 10.1109/CVPR.2018.00352

[3]. P. Devaki, S. Shivavarsha, G . Bala Kowsalya, M Manjupavithraa, E.A. Vima (2019)."Real-Time Object Detection using Deep Learning and Open CV" International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-12S, October 2019

[4]. R. Girshick, "Fast R-CNN," in IEEE International Conference on Computer Vision (ICCV), 2015

[5]. J. Redmon, S. Divvala, R.Girshick, A. Farhadi, You only look once: Unified, real-time object detection. In Proceedings of the IEEE Conference on computer vision and pattern recognition (pp. 779-788)(2016). https://doi.org/10.1109/cvpr.2016.91.

[6]. J. Redmon, A. Farhadi, YOLO9000: better, faster, stronger. In Proceedings of the IEEE Conference on computer vision and pattern recognition(pp.72637271)(2017). https://doi.org/10.1109/cvpr.2017.690.

[7]. Y.M. Wei, J.C. Quan, Y.Q.Y. Hou, Aerial image location of the unmanned aerial vehicle based on YOLO V2[J]. Laser & Optoelectronics Progress, 54(11): 111002(2017). DOI:https://doi.org/10.3788/LOP54.111002.

[8]. Ashwani Kumar1 , Zuopeng Justin Zhang2 and Hongbo Lyu3. Kumar et al. EURASIP Journal on Wireless Communications and Networking (2020) 2020:204 https://doi.org/10.1186/s13638-020-01826-x

[9]. J. Redmon, A. Angelova, Real-time grasp detection using convolutional neural networks. In 2015 IEEE International Conference on Robotics and Automation (ICRA) (pp. 1316-1322). IEEE(2015, May).

[10]. J. Redmon, S.Divvala, R.Girshick, A. Farhadi, You only look once: Unified, real-time object detection. In Proceedings of the IEEE Conference on computer vision and pattern recognition (pp. 779-788)(2016).

[11]. Y. Zhong, Y. Yang, X. Zhu, E. Dutkiewicz, Z. Zhou, T. Jiang, Device-free sensing for personnel detection in a foliage environment. IEEE Geoscience and Remote Sensing Letters **14**(6), 921–925 (2017). https://doi.org/10.1109/LGRS.2017.2687938

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 5, April 2023

[12]. Mitchell, T. M. (1997). Machine learning. McGraw Hill Series in Computer Science. Maidenhead: McGraw-Hill.