

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 2, November 2023

Human Activity Recognition

Mr. Harishchandra Maurya¹, Mr. Raj Chorghe², Mr. Shubham Prasad³, Mr. Yash Patil⁴

Assistant Professor, Department of Computer Engineering¹ Students, Department of Computer Engineering^{2,3,4} Chhatrapati Shivaji Maharaj Institute of Technology, Panvel, Maharashtra, India

Abstract: The topic of Human activity recognition (HAR) is a prominent research area topic in the field of computer vision and image processing area. It has enabled state-of-the- art applications in multiple sectors, such as surveillance, digital entertainment, and medical healthcare. Studying and predicting these movements can be interesting and intriguing, and several sensor-based approaches have also been introduced. +predict human activities such accelerometer, gyroscope, etc., This paper develops an intelligent system for recognizing human activities using convolution, which has its own advantages and disadvantages. (3D) Kernels are taught using the Kinetics data set, which has 400 classes that depict humans' daily activities and work, and consists of four.. This model uses the RESNET-34 3D CNN model, and the videos are only around a tenth of a second in length.. The model that was trained performed satisfactorily during all stages of training and testing

Keywords: Human activity recognition

REFERENCES

- [1]. He, Kaiming; Zhang, Xiangyu; Ren, Shaoqing; Sun, Jian (2015-12-10). "Deep Residual Learning forImage Recognition".
- [2]. Srivastava, Rupesh Kumar; Greff, Klaus; Schmidhuber, Jürgen (2015-05-02). "HighwayNetworks".
- [3]. Huang, Gao; Liu, Zhuang; Weinberger, Kilian Q.; van der Maaten, Laurens (2016-08-24). "Densely Connected Convolutional Networks".
- [4]. S. Abu-El-Haija, N. Kothari, J. Lee, P. Natsev, G. Toderici, B. Varadarajan, and S. Vijayanarasimhan. YouTube-8M: A large-scale video classification benchmark. arXiv preprint, arXiv:1609.08675, 2016
- [5]. Z. Qiu, T. Yao, and T. Mei. Learning spatio-temporal representation with pseudo-3d residual networks. In Proceedings of the International Conference on Computer Vision (ICCV), 2017.
- [6]. L. Wang, Y. Qiao, and X. Tang. Action recognition with trajectorypooled deep-convolutional descriptors. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pages 4305– 4314, 2015.
- [7]. BishoySefen, Sebastian Baumbach et. al. / HumanActivity Recognition Using Sensor Data of Smart phones and Smart watches/ ICAART 2016[1]
- [8]. un X, Chen C, Manjunath BS, —Probabilistic motion para-meter models for human activity recognition, In: Proceedings of 16th international conference on pattern recognition, pp 443–450
- [9]. Kwon W, Lee TW, Phoneme recognition using ICA-based feature extraction and transformation, Signal Process 84(6):1005-1019, 2004
- [10]. Lee SI, Batzoglou S, —Application of independent component analysis to microarrays, Genome Biol 4(11):R76.1-21, 2003

