

CNN Based Criminal Identification

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Abstract: *Considering abnormal increase in crime rate and number of criminals, there is a need of more effective Criminal Identification Technique. Biometric technique like thumb print identification is faded out today as criminals of these days obtaining cleverer to not leave their fingerprints on the scene. Human Face is the most important attribute to recognize any individual. It is a dynamic object having high degree of variability in its appearance which makes it a better identification technique among the other biometric techniques. But there are many challenges in Face Identification system too. Our project aims to overcome such challenges and evaluates various faces using Convolutional Neural Network (CNN) to provide a complete solution for Image based Face Detection with an accuracy of 76.19 for Criminal Identification.*

Keywords: CNN, Face Detection, Criminal Identification, ml5.js

REFERENCES

- [1]. Charu C Agrawal, "Neural Network & Deep Learning: A Textbook", Springer.
- [2]. Chenyang Li, Chunfang Li, "Web front-end Realtime Face Recognition Based on TFJS", 2019 12th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI).
- [3]. Alireza Chevelwalla , Ajay Gurav, Sachin Desai, Prof. Sumitra Sadhukhan, "Criminal Face Recognition System", 2015 International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181.
- [4]. Gurlove Singh, Amit Kumar Goel, "Face Detection and Recognition System using Digital Image Processing", 2020 Proceedings of the Second International Conference on Innovative Mechanisms for Industry Applications (ICIMIA 2020) ISBN: 978-1- 7281-4167-1.
- [5]. Wafa Mellouka, Wahida Handouzi, "Facial emotion recognition using deep learning: review and insights", 2020 The 2nd International Workshop on the Future of Internet of Everything (FIoE) August 9-12, 2020, Leuven, Belgium.
- [6]. Patrice Y. Simard, Dave Steinkraus, John C. Platt, "Best Practices for Convolutional Neural Networks Applied to Visual Document Analysis", e Seventh International Conference on Document Analysis and Recognition (ICDAR 2003), IEEE.
- [7]. Redmon, J., Divvala, S., Girshick, R., and Farhadi, A., "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.
- [8]. Howard, A. G., Zhu, M., Chen, B., Kalenichenko, D., Wang, W., Weyand, T., & Adam, H.. Mobilenets: Efficient convolutional neural networks for mobile vision applications. arXiv preprint., 2017
- [9]. <https://justadudewhohacks.github.io/face-api.js>, 2019
- [10]. <https://tensorflow.org/js/>, 2019
- [11]. He K, Zhang X, Ren S. and Sun J., "Deep residual learning for image recognition,". Computer Vision and Pattern Recognition, pp.770-778, 2016.