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Human Recognition Using OpenCV

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ABSTRACT: The age and gender prediction has increased significantly as there is a huge demand in photo applications. Nowadays a large number of people use social media and other social platforms. The performance of few existing applications and methods on real-world images is low. By using deep-convolutional neural networks (CNN) and OpenCV high performance and prediction rates can be achieved on the images uploaded. For this we have proposed a simple convolutional neural network architecture that could be used even if there is a huge amount of data to be processed. We use a data set as a benchmark for gender and age estimation and OpenCV for detecting the face of people or a person and CNN for analyzing the facial features and characteristics to predict age and gender of a person

KEYWORDS: Argparse library, Protocol Buffer, OpenCV, Convolutional layers, Command prompt.

I. INTRODUCTION

Existing methods on real world images signify that they are still lacking, especially when compared to the tremendous leaps in performance of face recognition. Early methods for estimation of age are based on calculating ratios between facial features measurement. Once facial features (e.g. eyes, nose, mouth, chin, etc.) and their sizes and distances are measured accurately, calculating the ratios between them and used for classifying the face into different age categories accordingly. More recently, using a similar approach to model age progression in subjects under 18 years old. Those methods require accurate facial features, a challenging problem by itself, and finding that they are unsuitable for in-the-wild images which one may expect on social platforms.

II. LITERATURE SURVEY

The traditional methods were manually engineered by analyzing facial characteristics of the constrained images. Kwen and Lobo introduced the first method to determine the age of a person by analyzing the geometric characteristics of the facial image in the year 1999. Further many more models were proposed. Many of them were not potentially estimating the age and gender for large data set processing.

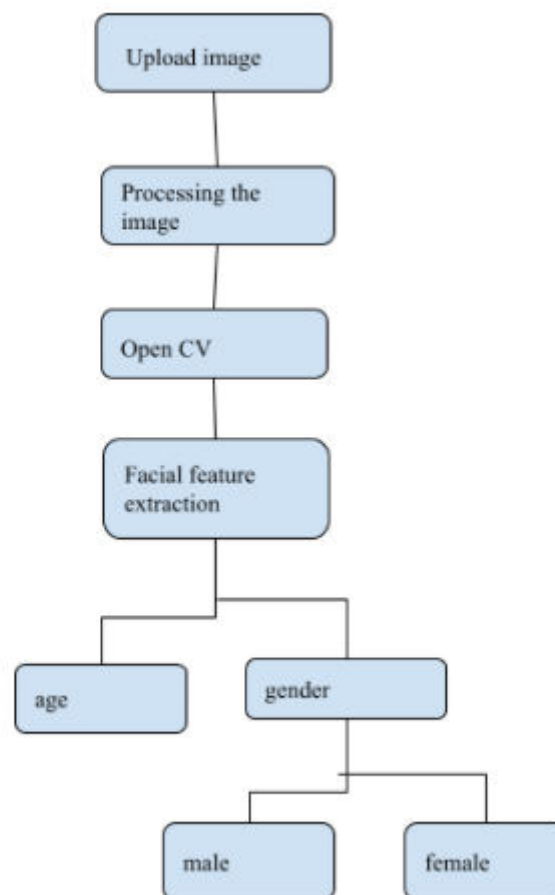
III. METHODOLOGY/APPROACH

The reliability of the existing solutions remains insufficient for practical applications. From a single image of a person we are trying to accurately identify the gender and age of a person using deep learning. The predicted gender may be one of 'male' or 'female' and the predicted age may be one of the following ages - (0 - 3), (4 - 6), (8 - 14), (15 - 20), (25 - 32), (38 - 43), (48 - 56), (60 - 100). For this we use Convolutional Neural Network (CNN) and OpenCV to detect the gender and age of a person from the given image. We can also predict age and gender of multiple people by uploading pictures of group photos or selfies etc. The image uploaded is split into three neural layers for analyzing and processing the image. The facial characteristics and features are already encoded. After processing the given image it checks for matching facial characteristics and predicts the gender initially. Then with the remaining facial features the age of a person or several people in case of a group picture is detected.

IV.RESULTS & DISCUSSION

The image of a person is to be present in the respective system to recognize gender and determine age of a person . To determine the age of more than one person the image has to be uploaded with clear faces . Enter the path of the image to upload the image in the command prompt. The image will be processed by OpenCV by analyzing the three convolutional layers and facial features are extracted from that image .The derived facial features and characteristics are checked against the set of facial characteristics which are already encoded to estimate the gender . The age will be predicted by using the derived facial characteristics and gender of a person.

A Protocol Buffer file is used which holds graph definition and also the trained weights of the given model. Argparse library is used for creating an argument parser . It helps to get the image argument from the command prompt. The only requirement is to install OpenCV in the corresponding system in which this method is used to estimate gender and age. For multiple face recognition , the gender and age of the respective persons are highlighted over their face using a square outline. This model can be developed as a software or an application or it can be merged with other software or application which requires gender and age prediction and analysis. This model can be used in various applications such as web proctoring during examinations , surveillance , photography applications for applying filters which can be customized according to the user or client. This can also be used for analysis of what type of customers or clients a business has to know their preference and improve their business and marketing in various fields .



V.CONCLUSION

Though various issues by using various methods have addressed the problems of gender and age estimation, much of this work has been focused on providing easy tools for estimating gender and age of people. These settings do not reflect much variations in appearances which are common to the real-world images existing in social media websites



and online .Internet images. The results given by this method will give appropriate results as we use CNN and OpenCV.

In Upcoming days we will build an application that estimates gender and age on a live camera or during web proctoring

REFERENCES

- [1] W.-L. Chao, J.-Z. Liu, and J.-J. Ding. Facial age estimation based on label-sensitive learning and age-oriented regression.
- [2] J. Chen, S. Shan, C. He, G. Zhao, M. Pietikainen, X. Chen, and W. Gao. Wld: A robust local image descriptor. Trans.
- [3] K. Chatfield, K. Simonyan, A. Vedaldi, and A. Zisserman.
- [4] K. Chatfield, K. Simonyan, A. Vedaldi, and A. Zisserman. Return of the devil in the details: Delving deep into convolutional nets.
- [5] J. Chen, S. Shan, C. He, G. Zhao, M. Pietikainen, X. Chen, and W. Gao. Wld: S. Minaee, A. Abdolrashidiy, and Y. Wang.
- [6] S. Minaee and A. Abdolrashidi, "Highly accurate palmprint recognition using statistical and wavelet features," in 2015.
- [7] S. A. Mistani, S. Minaee, and E. Fatemizadeh, "Multispectral palmprint recognition using a hybrid feature,".
- [8] J. Wright, A. Y. Yang, A. Ganesh, S. S. Sastry, and Y. Ma, "Robust face recognition via sparse representation," IEEE transactions on pattern analysis and machine intelligence
- [9] O. M. Parkhi, A. Vedaldi, and A. Zisserman, "Deep face recognition," 2015.



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