

RetinaFace: Single-stage Dense Face Localisation in the Wild

Application of Data Science - Project Proposal Presentation Group F

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Introduction

Name of the Paper: RetinaFace: Single-stage Dense Face Localisation in the Wild

Authors: Jiankang Deng, Jia Guo, Yuxiang Zhou, Jinke Yu, Irene Kotsia, Stefanos Zafeiriou

- This paper tries to overcome the challenges faced in face detection, accurate face localisation.
- The paper was published in the IEEE Conference for Computer Vision and Pattern Recognition which has a A1 rating according to Qualis.
- So far, we have managed to run the code on colab and achieved in getting accurate results which are similar to the results stated by authors, along with getting the similar precision-recall graphs.
- At the moment , we are focussing on constructing new dataset which will be a compilation of images with respective coordinates and measurements.

Original Data

Outputs produced by the code are evaluated according to the steps provided at <http://shuoyang1213.me/WIDERFACE/>

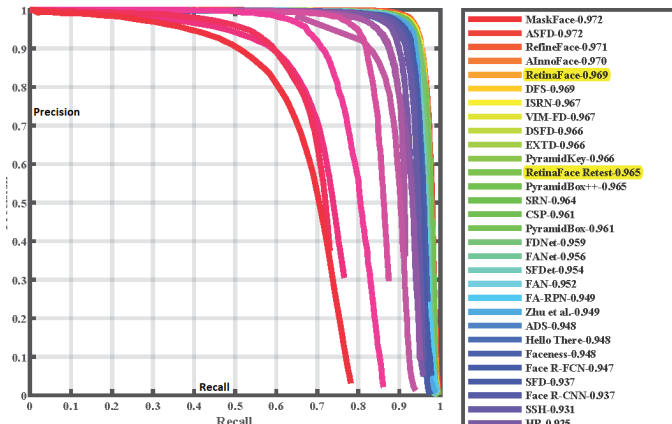


Figure: Easy Val

Original Data

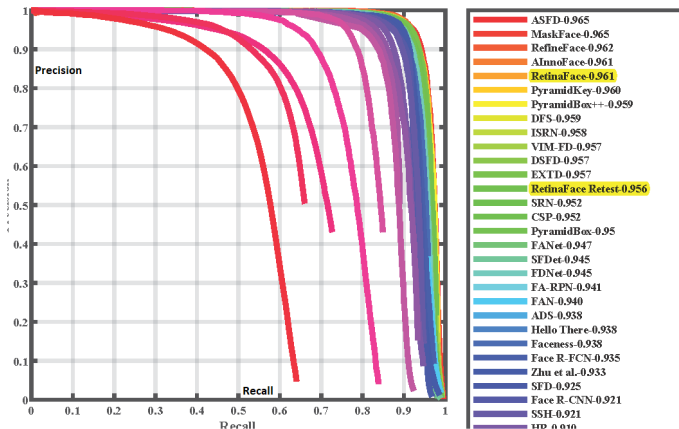


Figure: Medium Val

Original Data

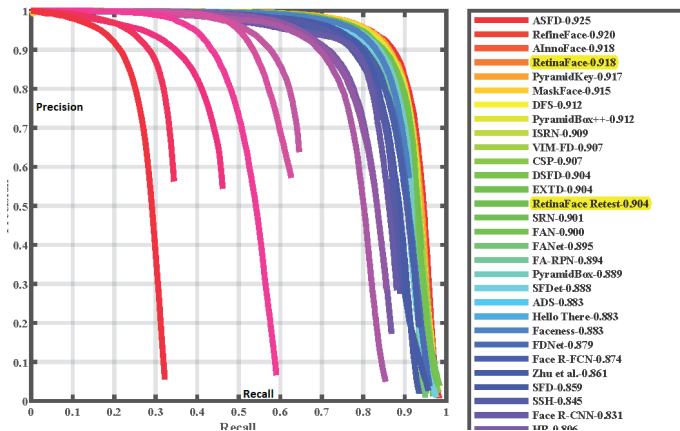


Figure: Hard Val

New Data

- Images are manually obtained and we want to recognize faces that are not part of any current dataset
- we need to gather examples of faces we want to recognize and then quantify them in some manner. This is done by facial recognition enrollment
- Another approach is that we can programmatically download example images of the faces via APIs on varying platforms. Such as Bing's image search API
- Then we manually label them and annotate bounding boxes for localization of target face The out put file is in the form of text file with face bounding boxes and five facial landmark coordinates.
- Facial recognition datasets like MPII and Deepfake are available on open source platforms like Kaggle and could potentially be considered here.