Detect Emotion, Age, Gender in Image

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Requirements

Age and gender, two of the key facial attributes, play a very foundational role in social interactions, making age and gender estimation from a single face image an important task in intelligent applications.

This Solution is able to detect face in an image and can predict the Age, Gender, and Emotion of the person. It can also work in condition if there are multiple faces present in the image.

We will use a custom VGG16 model developed and trained on open source facial datasets downloaded from Kaggle and IMDB. OpenCV, dlib & keras were used to aid facial detection. The final system can detect the emotion, age and gender of people in any given image.

What is VGG?

Creating a facial recognition model from scratch is a daunting task. You need to find, collect and then annotate a ton of images to have any hope of building a decent model. Hence using a pretrained model in this domain makes a lot of sense.

VGG-Face is a dataset that contains 2,622 unique identities with more than two million faces.

Wide Residual Network

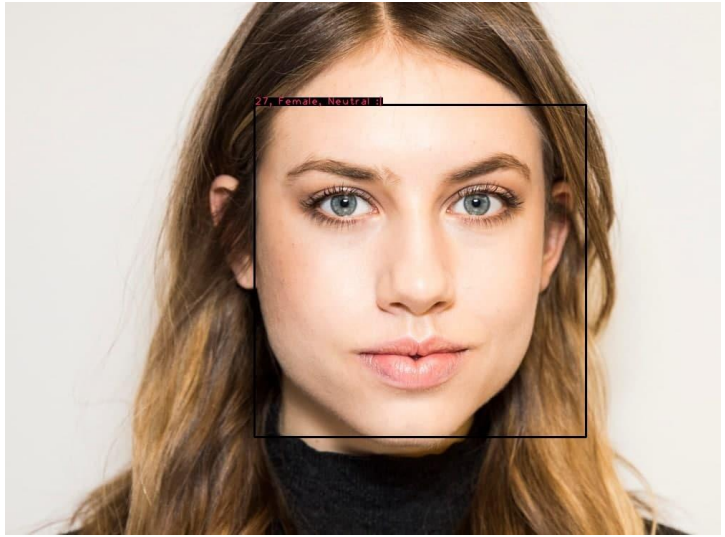
Wide Residual Networks are a variant on ResNets where we decrease depth and increase the width of residual networks. That as the network gets deeper, its performance saturates or even starts to degrade.

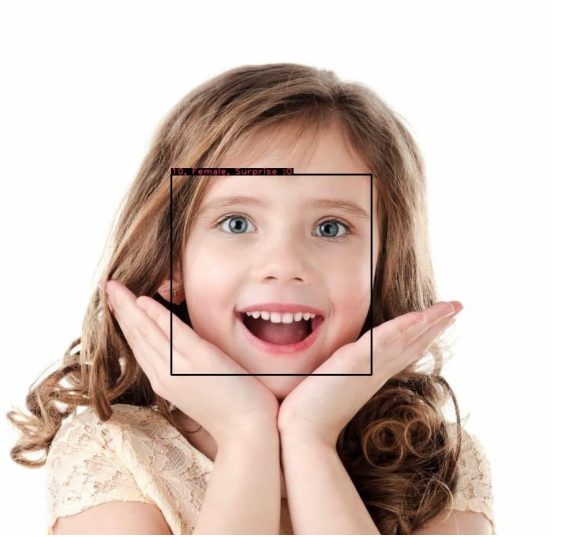
Result in improved performance, far fewer layers, and faster training.

Used technology

- OpenCv
- Keras
- Numpy
- Dlib
- Python
- Jupyter notebook

Image test





Webcam test