ATTRIBUTE AND SIMILE CLASSIFIERS FOR FACE VERIFICATION

Team: Computer Visionaries
Shubhankar Bhagwat : 20171147
Saaransh Tandon : 20171007
Ishaan Khare : 20171153

INTRODUCTION

Face verification is the task of identifying a given pair of face images as belonging to the same person or not. The goal of the paper is to perform face verification task using a combination of two new methods:

- Simile Classifier
- Attribute Classifier

Finally it combines the above two to train a classifier which decides whether two images belong to the same person. We aim at implementing the pipeline of the paper and reproduce the accuracies close to their own implementations.

WORK TILL NOW

1) LOW LEVEL FEATURE EXTRACTION:

Aim is to provide good meaningful and compact representations of images for training purposes.

Extract faces from given images using inbuilt CV2 functions.

Align all extracted faces to facilitate landmark extraction and also to bring all of them in a common frame of reference for observation.

Extract important regions from these aligned faces, this helps pinpoint the important regions of the faces which can be used in the representation.

This 'information' is interpreted and stored in the form of various local/low-level/pixel-level properties of images like :

a) Histograms of RGB,HSV versions of the image.
b) Local Edge gradients.

2) ATTRIBUTE CLASSIFIER

This is the first type of classifier. For a given attribute, this classifier learns a binary boundary denoting presence or absence of the attribute.

The paper mentions 63 predefined attributes like 'baby' , 'Bushy

eyebrows', 'moustache' 'frowning' . They also have provided annotated values corresponding to each attribute for each image.
Also, the paper has mentioned particular pairs and image sets to be used for training so as to facilitate best possible training
Till now we have trained few classifiers without using any feature extraction or good representation of images. As mentioned before , we did not achieve good results , but we got an idea for the baseline results which we aim to beat at the very least.