# Machine Intelligence Research paper Presentation:
## *Age and Gender Estimation of Unfiltered Faces*

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# Introduction:

- Facial traits like **age** and **gender** represent information to a wide range of tasks like medicine prescription. These traits did not receive much attention than any of the other traits like face recognition.
- How a person is going to be addressed was decided on who the person is, like sir or madam. The older persons would often be addressed more formally than the younger one.
- As the roles of computers in our lives grow and interact with them more and more, it is natural to expect computerized systems to be capable of doing the same with same accuracy and effortless.
- **Motivation**: The amount of data or information available for problems like estimating age and gender.

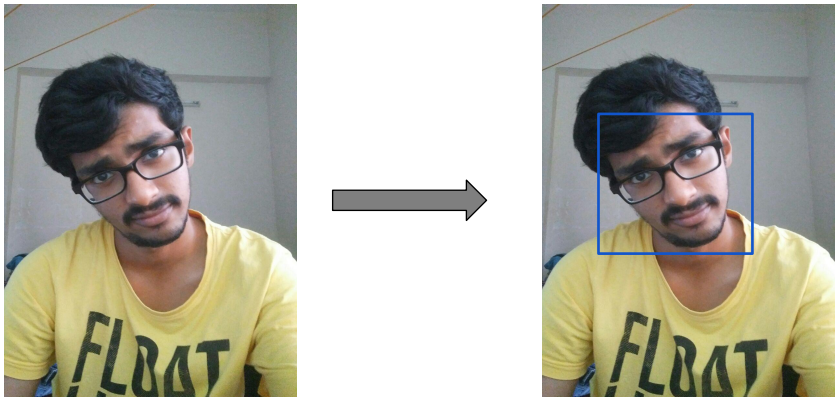
# Overview of paper:

- In order to estimate a person's gender and age we need to have a good dataset which consists of images that were taken under real-world challenging conditions. Here the authors created their own dataset containing images under challenging real-world conditions and named it as **Adience set**.
- Once after the dataset was created, now how to determine gender and age??
  - Detection and alignment of input image.
  - Representation of the image like Local Binary Patterns (LBP), Four patch LBP.
  - Classification of gender and age using Dropout SVM to linear SVM training.
- Alignment was done using iterative re-weighted least squares approach.

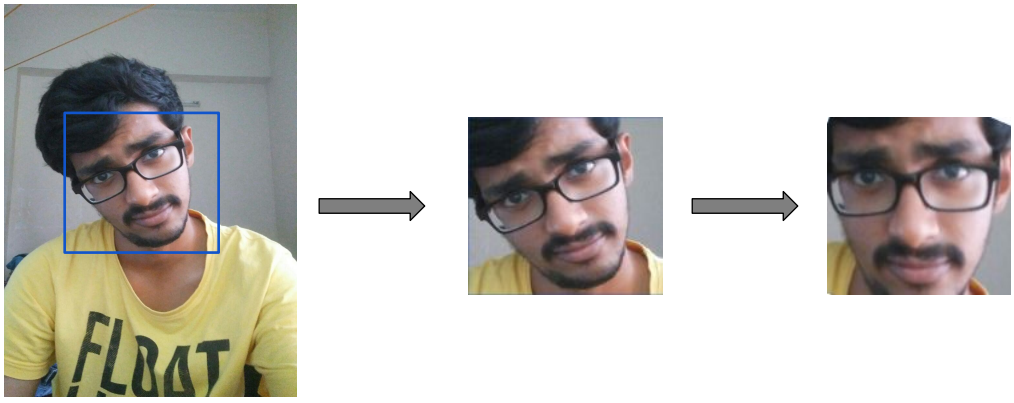
# Implementation:

- Goal is to detect a face in an unfiltered image and align it properly.
- For detection of face I'll be using the viola and jones face detector i.e., using the haar cascade file dataset.
- For alignment of faces I'll be rotating images where 360 degree roll versions are considered of the input image at 5 degree increments and out of all the orientations, we take the median of all the orientations in which face was detected.
- We need to rotate the detected images and convert into appropriate image representation and check the images with the images present in the dataset and determine their age and gender because most of the images are Frontal images in the dataset.

## Face detection:



## Alignment:



# How am i going to implement???

- I’m going to use openCV version 2 along with python 2.
- Input: Image of a person.
- Output: Detected face in frontal form as shown above.