Hello Sir,

I wrote the code for tracking eyes in MATLAB. I checked it on some self-made videos and code is giving following results

84.25 % accuracy

8.3% detecting extra thing along with pupil.

7.4% detecting either one or none eye.

**ALGORITHM USED**

### For Face detection I used standard algo called [Viola–Jones](http://en.wikipedia.org/wiki/Viola%E2%80%93Jones_object_detection_framework). After detecting face, I used Facial Symmetry to detect eyes. Although we can use Viola-Jones again for ‘eyes detection’ but it would take time so we better make use of symmetry here for eyes.

### After Eyes Detection, I did some preprocessing like converting RGB to GreyScale.

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For Pupil Detection, I used Cumulative Distribution Function (CDF) Analysis.

(<http://arxiv.org/ftp/arxiv/papers/1202/1202.6517.pdf>)

After Detecting Pupil, I again did some Probing to remove unwanted pixels from the image. For this I perform Erosion and Dilation of image, grouped together all the connected pixels and label them.

After completing all the morphological operations, I will have image containing Pupil.