# Emotion Recognition From Video Sequence

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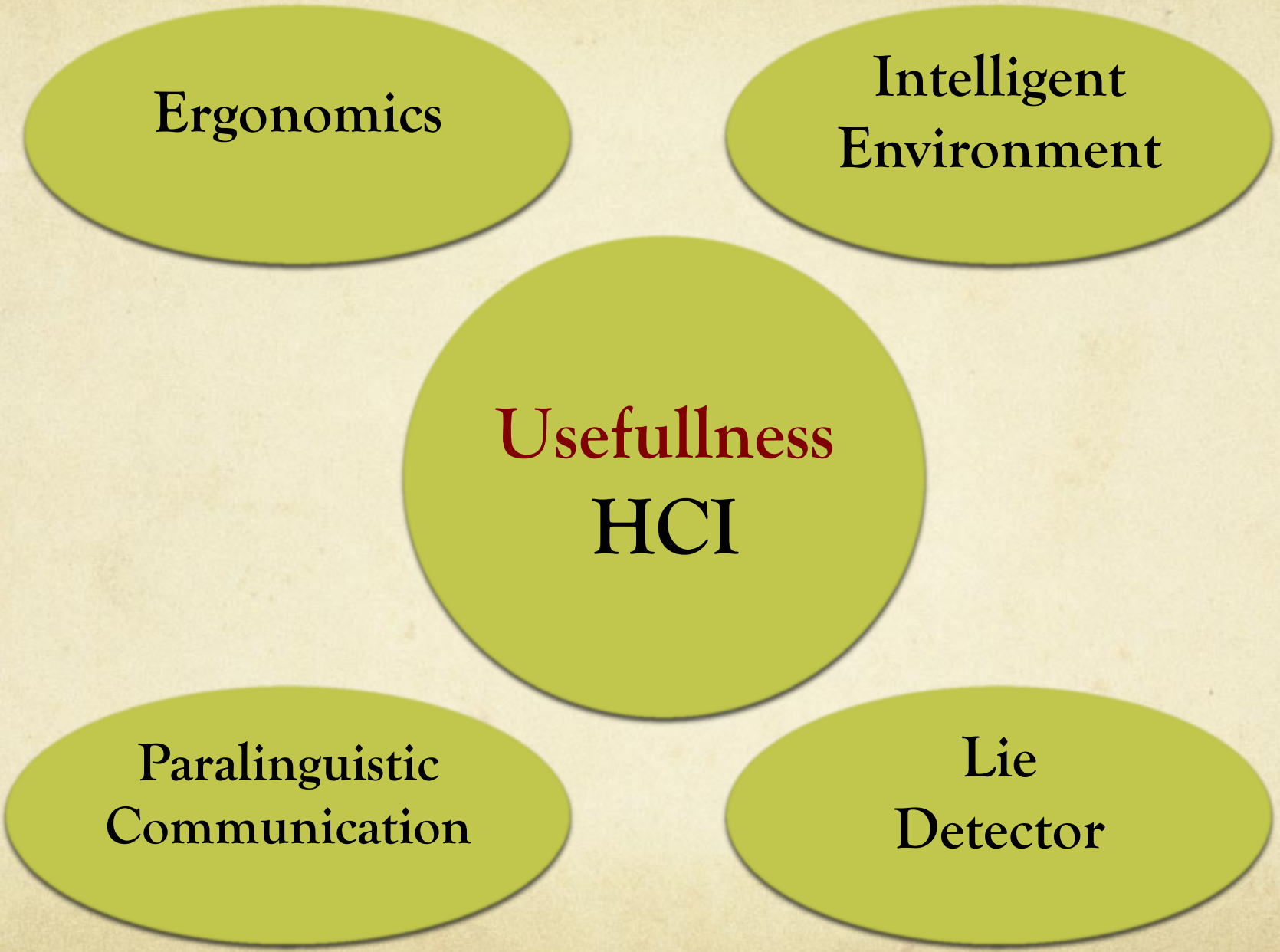
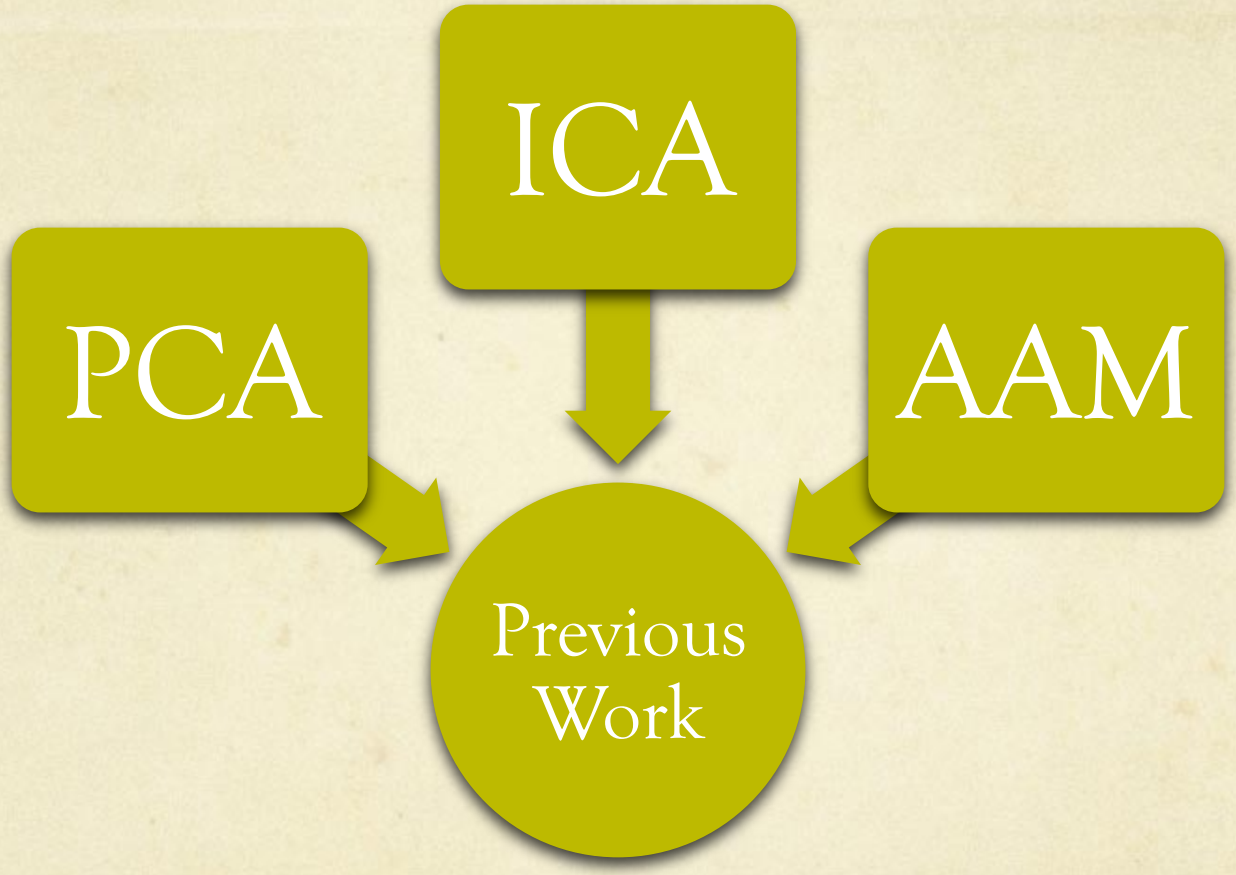
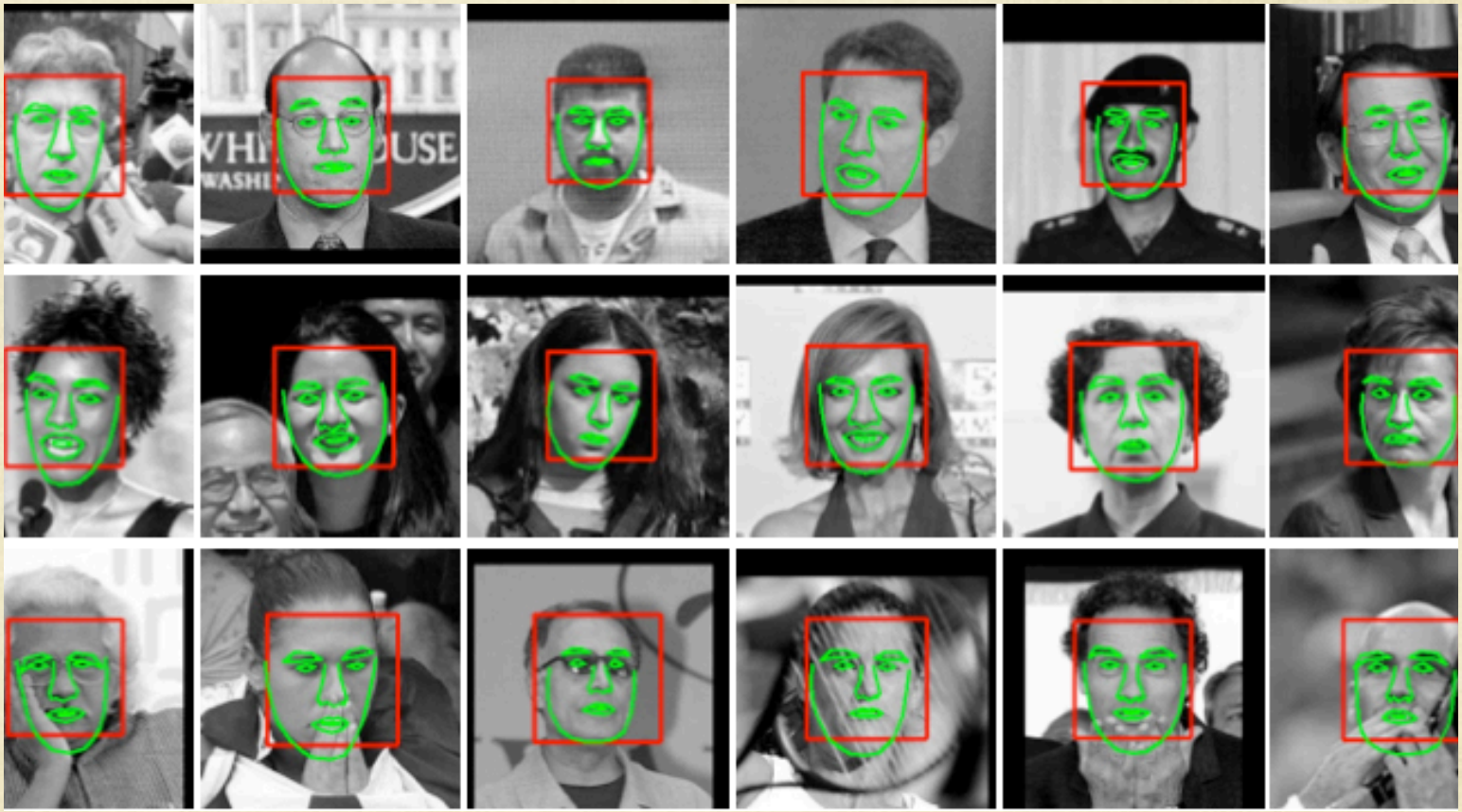
Guide : Dr. Amitabha Mukerjee


Ergonomics
Intelligent Environment
Usefullness
HCI
Paralinguistic Communication
Lie Detector


ICA
PCA
AAM
Previous
Work

# CLM - Tracking



Ref – Face alignment through Subspace constraint Mean-shifts , Jason M. Saragih , et al.

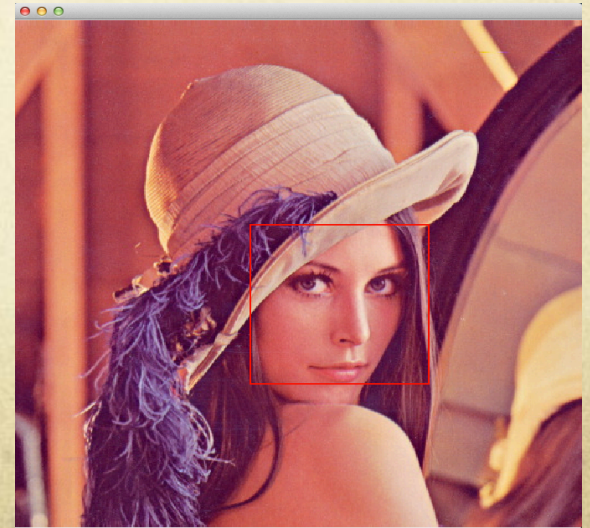
# kmeans Clustering & face Extraction

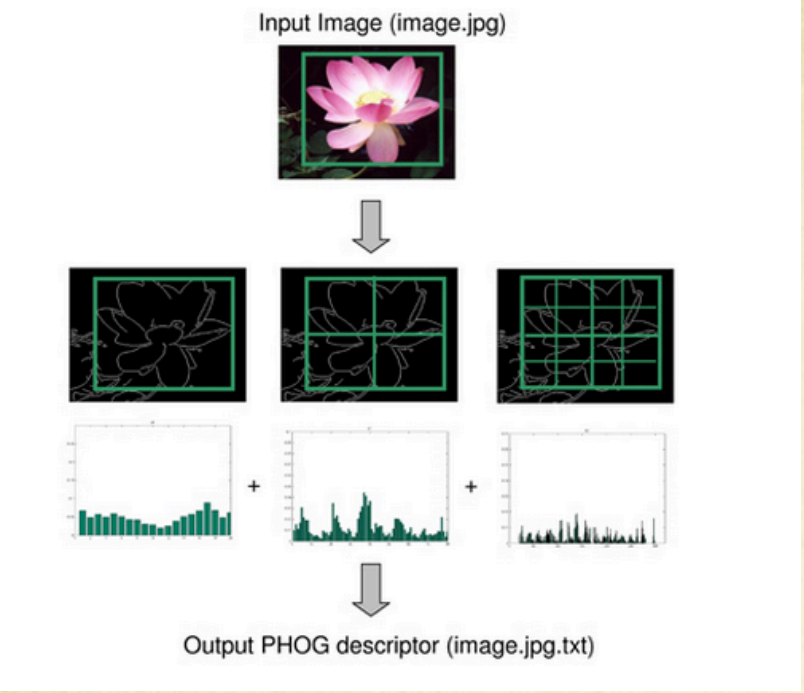
$P_N$ from all images

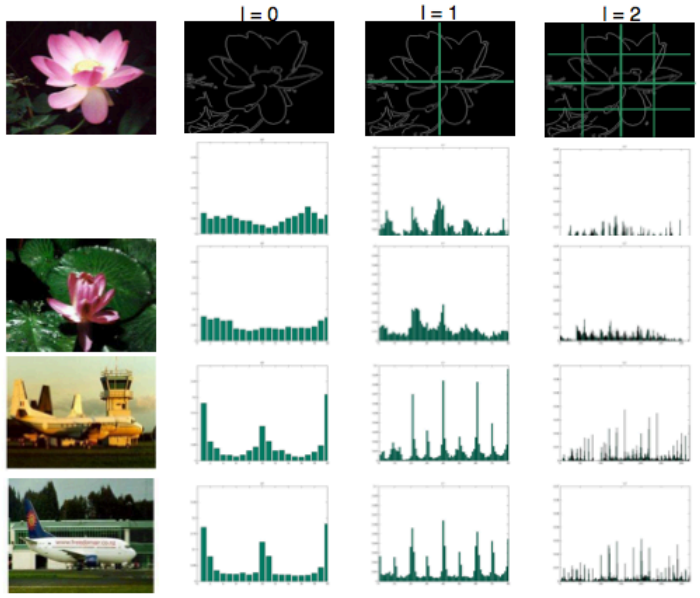
Normalization → $P_N^n$

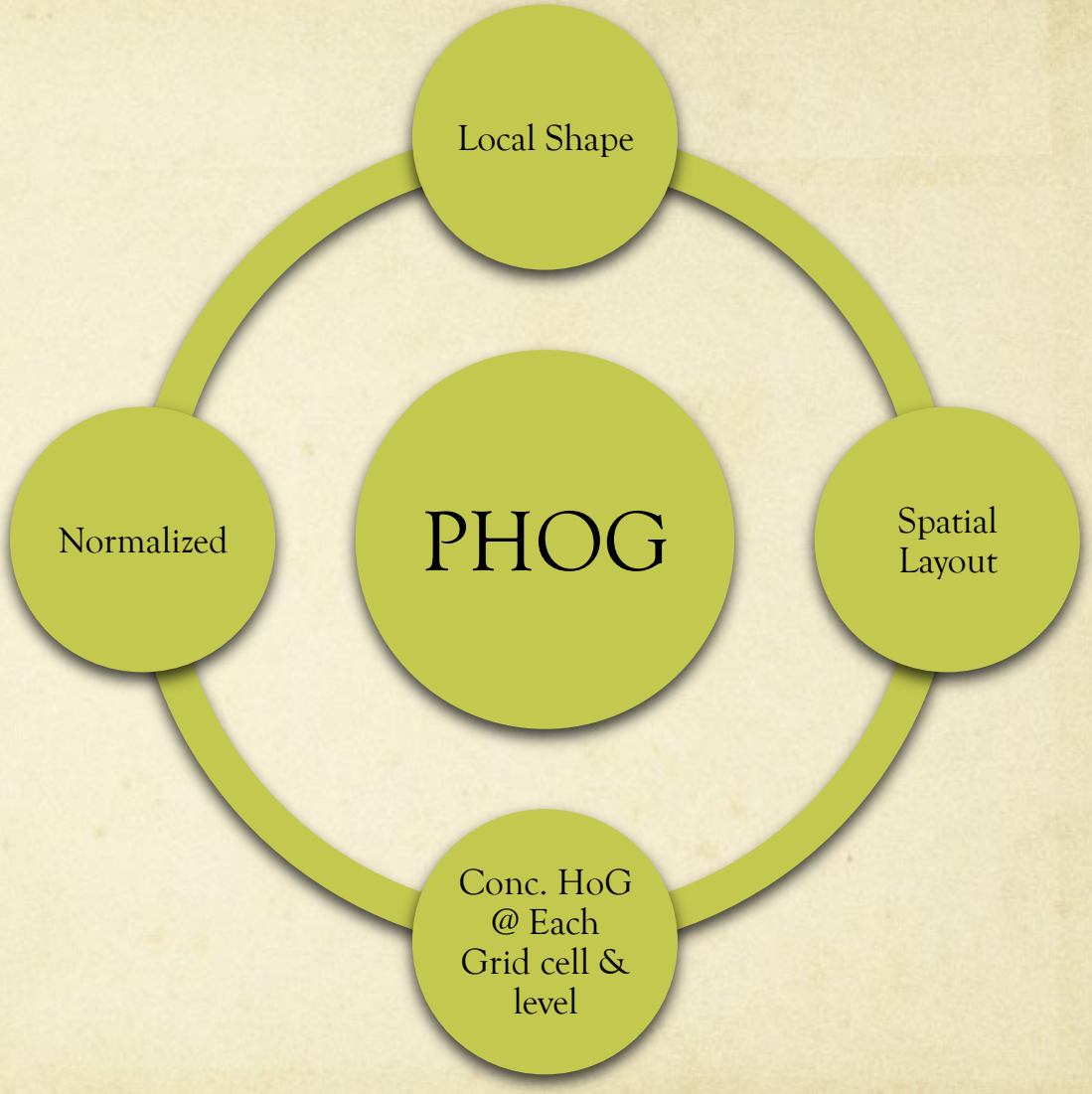
Compute kmeans → m clusters

Viola Jones detection →






Ref – Representing shape with a spatial pyramid kernel . Anna Bosch, et al.

# PHOG Descriptors

Canny Edge on Cropped Images

Spatial Grid – Each Level

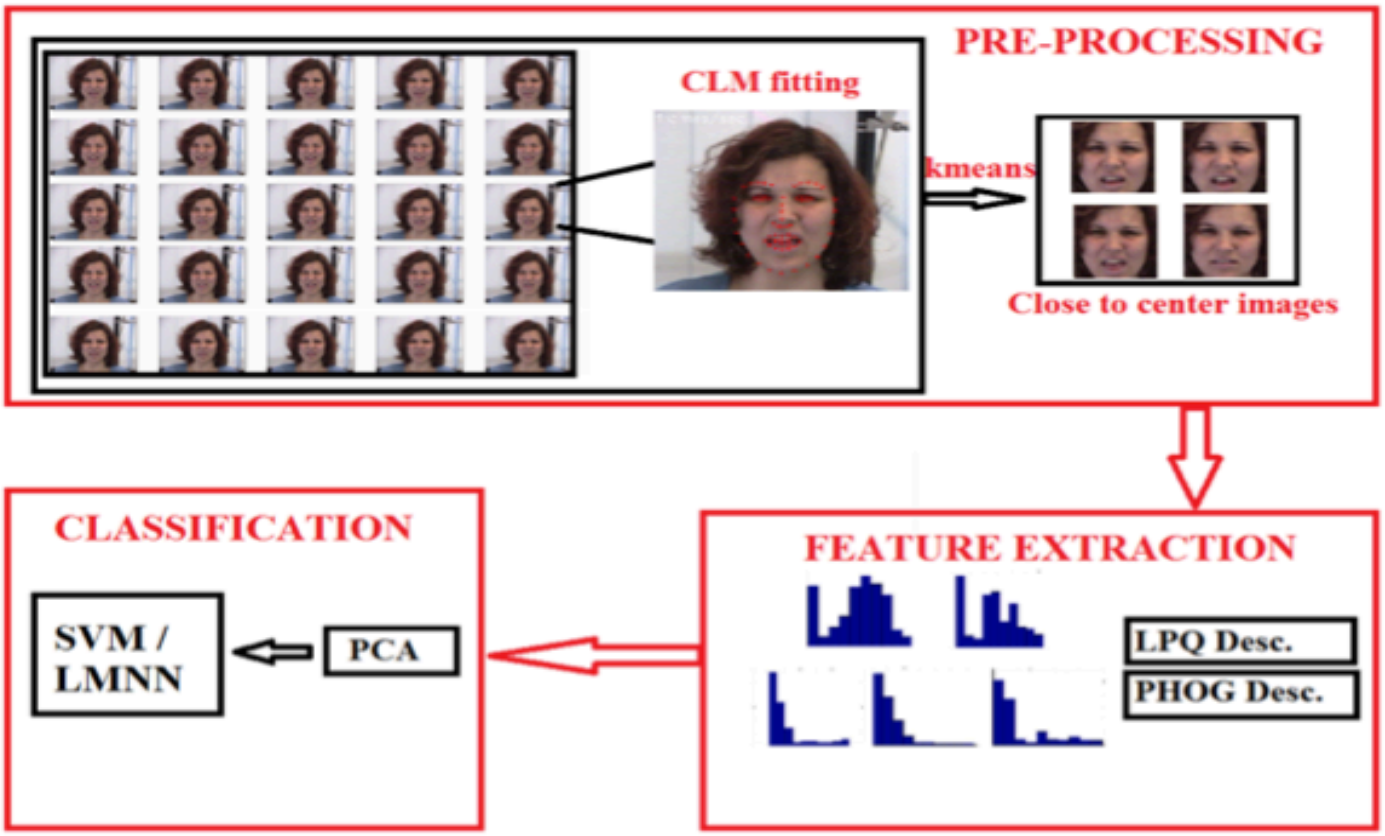
Mask – Edge Orientation

Join Gradients at each grid at each pyramid level

SVM

Pyramid L=3, N=8, Orientation [0-360]

# METHODOLGY




*ref : dhall_asthana_goecke_gedeon_FERA2011_finalCR

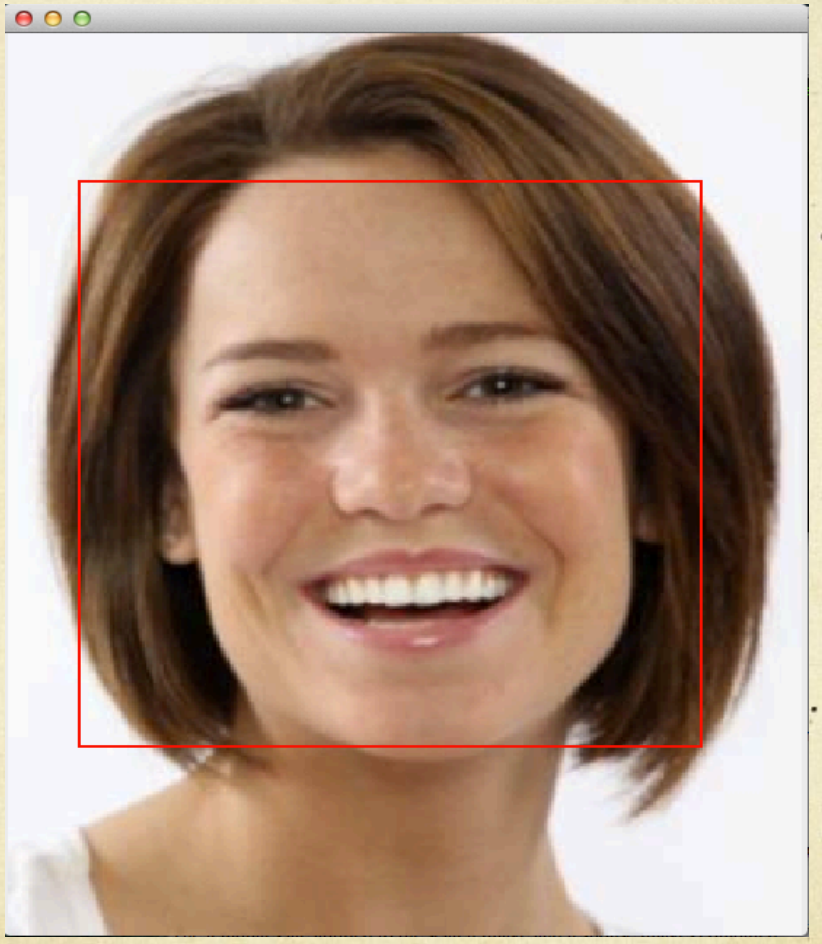
# Data Set

- SSPNET GEMEP FERA Dataset.
- Multiple facial Expression in a video clip
- Training Data – 7 actors (155 images)
- Test Data – 3+3 actors (134 images)
- Person specific & Independent.
- Emotions – Anger, fear, joy, relief & sadness.

# Intermediate Result

0.10695
0.13565
0.097976
0.11149
0.15497
0.1244
0.13623
0.13233

For – l=0 , 8 bins



Vila Jones Detection

0.053476
0.067826
0.048988
0.055744
0.077484
0.062202
0.068114
0.066167
0.0071858
0.014849
0.0079039
0.0075482
0.0050422
0.0056621
0.010493
0.0095262
0.016504
0.01473
0.017205
0.01459
0.024893
0.016986
0.025514
0.02076
0.010777
0.020373
0.0080787
0.010277
0.020247
0.011955
0.012103
0.012388
0.019009
0.017874
0.0158
0.023328
0.027301
0.027599
0.020004
0.023493

For – L = 0 , 40 bins

# Thank You !

# Questions ??