_____

A Method for Two Face Detection and Comparison using Image Processing with MATLAB Techniques

Swati Chauhan, Dr. S. M. Ghosh

M.Phil (CS) Research Scholar,

Professor Department Of CSE

Dr. C.V. Raman University Kargi Road

Kota Bilaspur (C.G.), India

swaty.chauhan@gmail.com,samghosh06@rediffmail.com

Abstract:- This Research paper designing for two photos face similarity comparison method, first we have to capture camera picture for 13 megapixels of two faces Image. It should be set by Photoshop software from size between 1.5MB to 1.7 MB. The all sample Images to attach in MATLAB software and cerate joint Histogram graph for each Image. Then we get scaling (X, Y) coordinate for each joint Histogram minimum and maximum peak point. Then it should be stored in table format in Ms-Access before the table creation then we used to image processing technique in MATLAB .Then we create coddling sections to compared (X_i,Y_i) and (X_j,Y_j) where (i = 1,2,3.....) and (j = 1,2,3,4....) values. If $X_i = X_j$ and $Y_i = Y_j$ for each point if both point value are same then output will be "similar image " otherwise " images are not same " .

Keyword: - _13 megapixel camera images, Photoshop, MATLAB s/w, Ms-Access._

_____ ***** _____

I.   INTRODUCTION

The Image Processing and MATLAB technique are very useful for various research areas. It is also explain National Instrument Lab S/W and Vision based of advanced Programming in lab application. The process of image in MATLAB lab project specifically design for people authentication. The main objectives of the research paper are used for govt. project as well as private area. It just identify two or more people identification and comparison them . The Approached of this research to create a large area to the field of Image gesturing analysis with joint histogram mechanism for communication with people and computer application.

II.   PURPOSE OF RESEARCH

2.1 Face Image Preprocessing

Face image of various human with various facial expression is take with a Camera capture shot IS digital photo in the size base on 13 megapixels. All face image take reassembly the following general features:

➤ Uniform conditions

➤ Light color background

➤ Faces in upright and frontal position
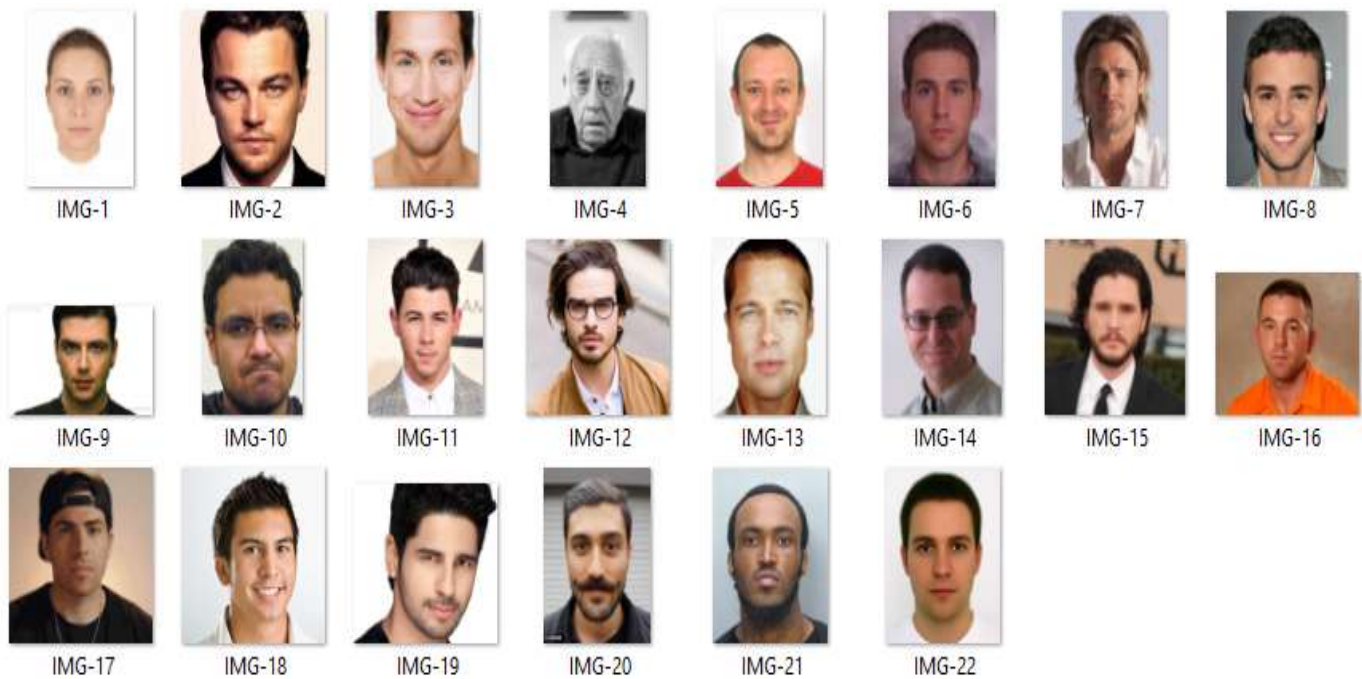
➤ Tolerance for tilting and rotation up to 20 degrees

_____

_____

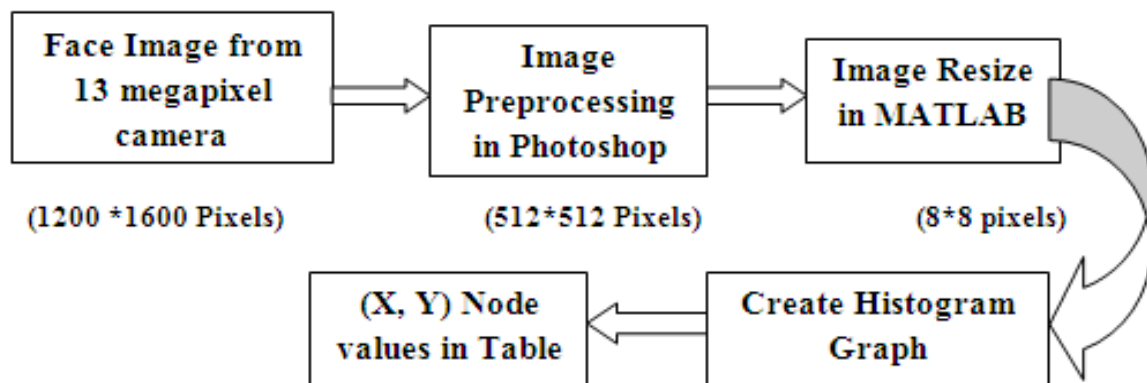**FIGURE 1: - SOME DATA BASE IMAGES**

**FIGURE 2:- PROPOSED FLOW CHART**

III.   METHEDOLOGY AND MATERIALS

3.1 PRAPOSED AUTHENTICATION TECHNIQUE:-

3.2 Signal and Graph Terminology

The signals is a describe of how many parameters is relate to other parameter. For example:-The similar types of signals in analog electronic are a voltage, the deferent with the time signal. In the both parameter can let a continuous range of value. They are transfer continuous signal. The In comparison between passing the signals by an analogs-to-digitals conversion force every of the two parameter to be quantized.   The instance of imagine the conversion began   done by 12 bits rate of 1000 signal per second.

_____

_____

FIGURE 3.1:- Examples of two digital signals with different standard deviation.
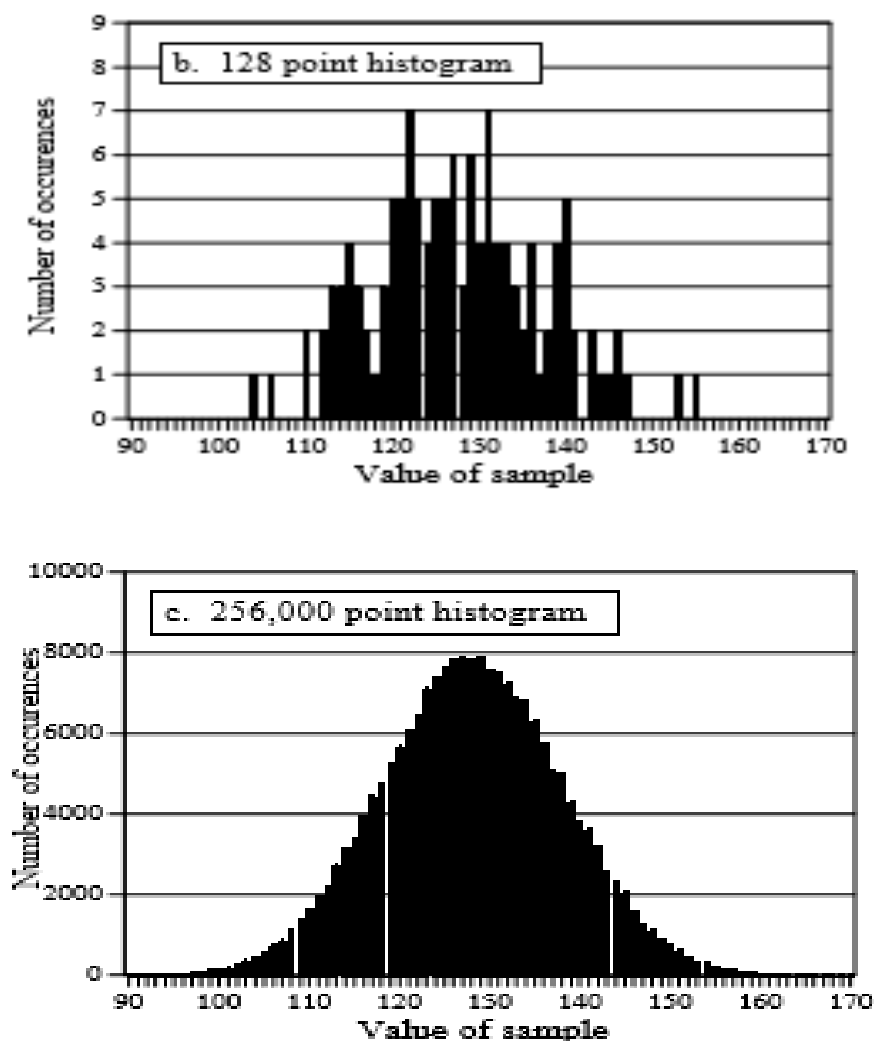
IV.   REVIEW OF LITERATURE

4.1 Face Detection Technique

4.2 Feature of Face Detection

We presents common approached for pure automatic face detection of facial feature. The novel technique   used for basic concept of facial detection. The proposed to locate the mouth detection, nose detection and eyes detection. The estimated of position ` for feature like nose, eye and mouth detection.

4.3 Geometric of Face Detection

This Research present an efficient features selection technique   base of geometrics structure of the face   images   and interior. The model of geometric of face, Component Analysis and edge position are uses. The geometric method and SCM technique provide   upper face position   accuracy and improve the time complexity. The Both model   provide filtered of images in term of pixels value to got the face position that are more fast and efficient for long image database.

_____

_____

4.4 Joint histogram:-

In this research paper, the joint histogram graph we help to create a graph of every face images. The image summary is like that joint histogram it is design for to you large data base. The joint histogram is a multi dimensional graph to creates a set of local pixels feature. The begging of joint histogram counts an number of pixel in the photos that are describe by a particular selection of a values.

4.5 Languages base Face Detection

The language gives a novel method for a for image face detection technique. It is uses many model for open Re-source to solve the Gesturing of the face detection. This paper is a language based model for any images faced to reach and detect. The best cases for considered the mainly to classify a more troubling of image face detection.

V. PROPOSED ALGORITHM
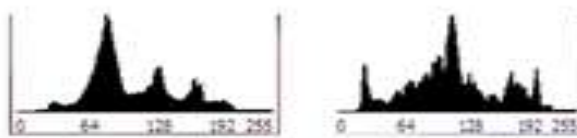
_____

_____
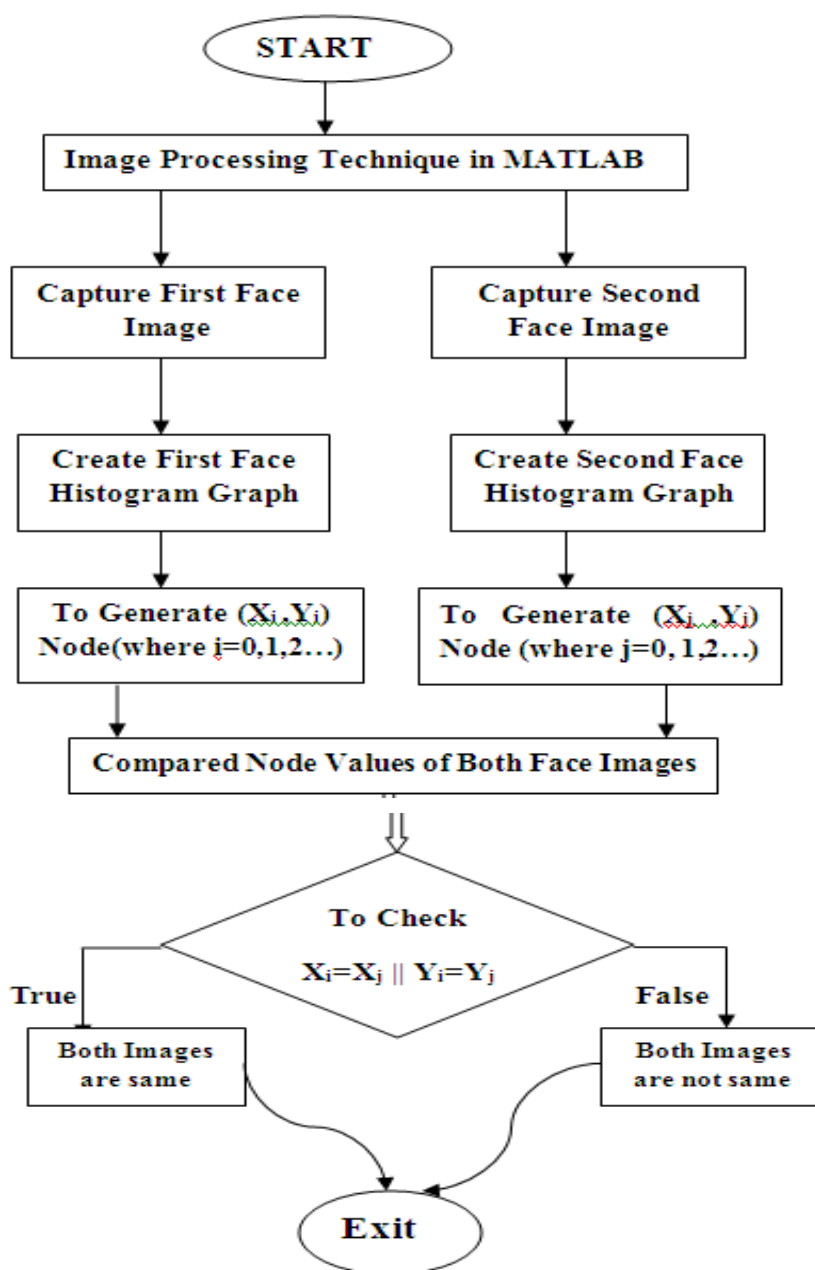
VI. EXPERIMENTS WITH PROPOSED SYSTEM

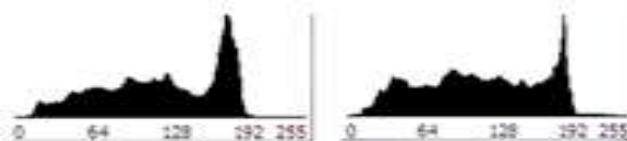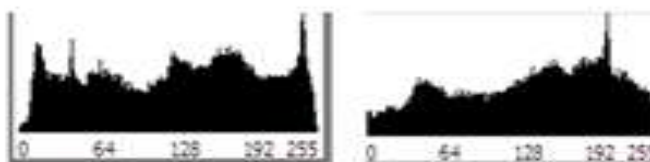### 6.1 Comparison of Two Images with Create Histogram Graph

Histogram Graph of Image: 1 and Image: 2

Histogram Graph of Image: 3 and Image: 4

Histogram Graph of Image: 5 and Image: 6

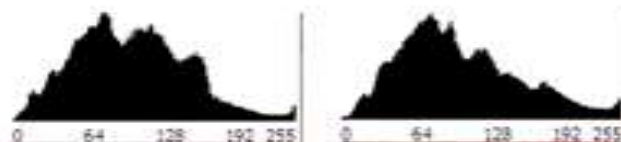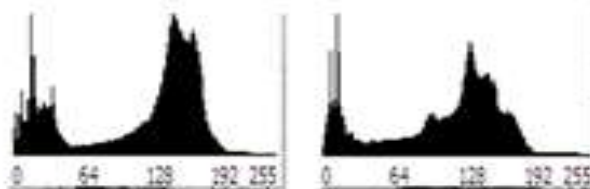Histogram Graph of Image: 7 and Image: 8

Image: 9   Images: 10

_____

_____

VII.MATLAB CODING
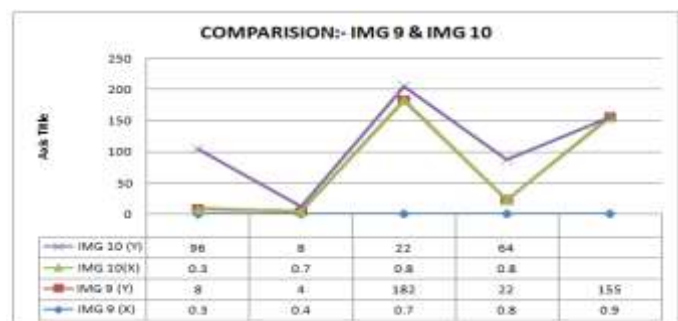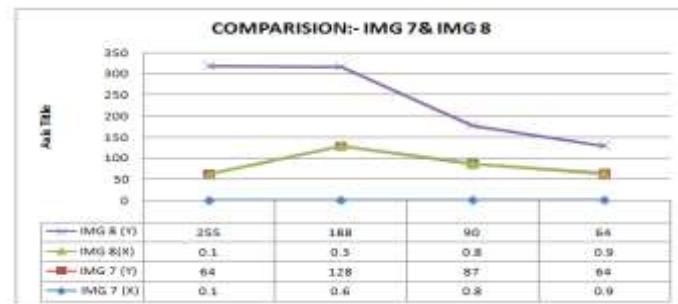
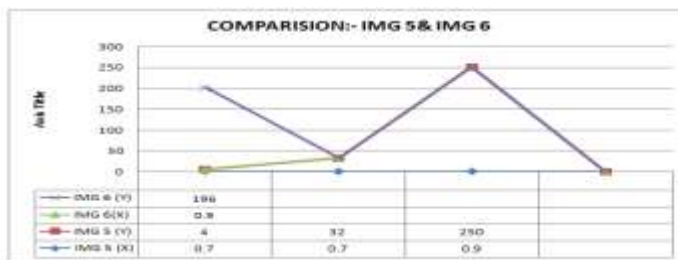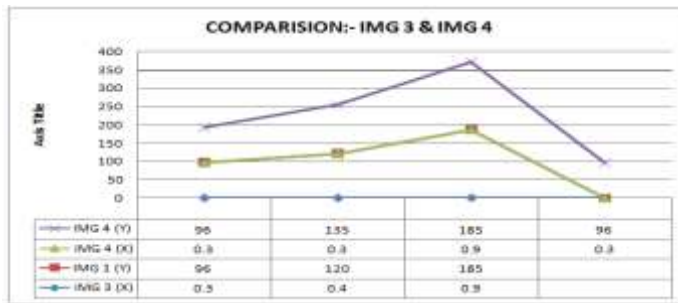## 7.1 Cosine Distance Code of two images in MATLAB

```
score_cosine = Image (i);
score_horizontal = dist (Image (j));
        %Cosine distance between vectors
        %where i=0, 0.1, 0.2 ....0.9
        %where j=0, 2, 4, 6.......255
Vertical
        cosine_threshold = Val (i);
        Disp ('Cosine Compare')
        Disp (score_cosine)
If score_cosine > cosine_threshold
        Disp ('Both images are equal');
Else
        Disp ('Both images are not equal');
End
Horizontal
Horizontal_threshold = Val (j+16);
        Disp (' horizontal Compare')
        Disp (score_horizontal)
If score_horizontal < horizontal_threshold
        Disp ('Both images are equal');
Else
        Disp ('Both images are not equal');
End
```

VIII. RESULT ANALYSIS

8.1 Analysis of Two face Images Analysis Report

IMAGE:1	IMAGE:2	IMAGE:3	IMAGE:4	IMAGE:5	IMAGE:6	IMAGE:7	IMAGE:8	IMAGE:9	IMAGE:10
(0.3,180)	(0.4,30)	(0.3,96)	(0.3,96)	(0.7,4)	(0.9,196)	(0.1,64)	(0.1,255)	(0.3,8)	(0.3,96)
(0.5,128)	(0.4,199)	(0.4,120)	(0.3,135)	(0.7,32)	-------	(0.6,128)	(0.3,188)	(0.4,4)	(0.7,8)
(0.9,87)	(0.5,96)	(0.9,185)	(0.9,185)	(0.9,250)	-------	(0.8,87)	(0.8,90)	(0.7,182)	(0.8,22)
-------	(0.9,124)	-------	(0.3,96)	-------	-------	(0.9,64)	(0.9,64)	(0.8,22)	(0.8,128)
-------	-------	-------	-------	-------	-------	-------	-------	(0.9,155)	-------

_____

_____

8.2 COMPARISON GRAPH:-

COMPARISION:- IMG 1 & IMG 2

IMG 2 (Y)	30	199	96	124
IMG 2 (X)	0.4	0.4	0.5	0.9
IMG 1 (Y)	180	128	87	
IMG 1 (X)	0.3	0.5	0.9	

COMPARISION:- IMG 3 & IMG 4

IMG 4 (Y)	96	135	185	96
IMG 4 (X)	0.3	0.3	0.9	0.3
IMG 1 (Y)	96	120	185	
IMG 3 (X)	0.3	0.4	0.9	

COMPARISION:- IMG 5 & IMG 6

IMG 6 (Y)	199			
IMG 6(X)	0.9			
IMG 5 (Y)	4	32	250	
IMG 5 (X)	0.7	0.7	0.9	

COMPARISION:- IMG 7 & IMG 8

IMG 8 (Y)	255	188	90	64
IMG 8(X)	0.1	0.5	0.8	0.9
IMG 7 (Y)	64	128	87	64
IMG 7 (X)	0.1	0.6	0.8	0.9

COMPARISION:- IMG 9 & IMG 10

IMG 10 (Y)	96	8	22	64	
IMG 10(X)	0.3	0.7	0.8	0.8	
IMG 9 (Y)	8	4	182	22	155
IMG 9 (X)	0.3	0.4	0.7	0.8	0.9

_____

_____

IX. CONCLUSION

This Research is very useful for two or more people face detection identification. It is human and machine interaction system. It is a very important concept for goal of the image recognitions of machine communication. This research also extended or future work is done by various field like that sign language, robots controlling, gesture reorganization etc technique. We are used to getting the result by image processing and MATLAB tools and technique. This paper is a real work for multi image reorganization. It has been provides with emphasis on image different expression modes . Most of researchers are uses color image for achieved best result. To Comparison between different images to be recognition machines has been present with explain of the important parameter needed for any recognitions of machine which includes , segmentation process, feature extractions, and the classification algorithm.

X. REFERENCES

[1] Zhang B C and Zhang Z., A survey of recent advances in face detection. Technical report, Microsoft Research, 2010.

[2] Yang M.-H., Kriegman D., and N. Ahuja N., "Detecting faces in images: A survey," IEEE Trans. On PAMI, vol.24, pp. 34–58, January 2002.

[3] Viola P. and Jones M., "Rapid object detection was using a boosted cascade of simple features," in Proc. Of CVPR, pp. 511–518, 2001

[4] Majumder Anima, Behera L. and Subramanian V.K., " Automatic and Robust Detection of Facial Features in Frontal Face Images", 13th International Conference on Modeling and Simulation, pp. 331-336,2011.

[5] Paul Padma Polash and Gavrilova Marina, "PCA Based Geometric Modeling for Automatic Face Detection", International Conference on Computational Science and Its Applications, pp. 33- 38,2011.

[6] Jang Daesik, Miller Gregor, Fels Sid, and Oldridge Steve, "User Oriented Language Model for Face Detection", ISSN- 978-1-61284-035-2, IEEE 2010, pp. 21- 26,2011.

[7] Jiang Ning, Yu Wenxin, Tang Shaopeng, Goto Satoshi, "Cascade Detector for Rapid Face Detection", IEEE 7th International Colloquium on Signal Processing and its Applications, pp. 155-158,2011.

[8] Bronstein E. M., Bronstein M. M., Kimmel V, and Spira A, 3d face recognition without facial surface reconstruction, 2003.

[9] D. Cai, X. He, and J. Han. Semi-supervised discriminant analysis. Computer Vision. IEEE 11th International Conference on Computer Vision, 14:1–7, 2007.

[10] Chang H.,. Koschan A, Abidi B., and Abidi M., Fusing continuous spectral images for face recognition under indoor and outdoor illuminants. Machine Vision and Applications, 21(2):201–215, February 2010.

[11] Chen L.-F., Liao H.-Y.,. Lin J.-C, and Han C.-C., Why recognition in a statistics-based face recognition system should be based on the pure face portion: a probabilistic decision-based proof. Pattern Recognition, 34(5):1393–1403, 2001.

_____