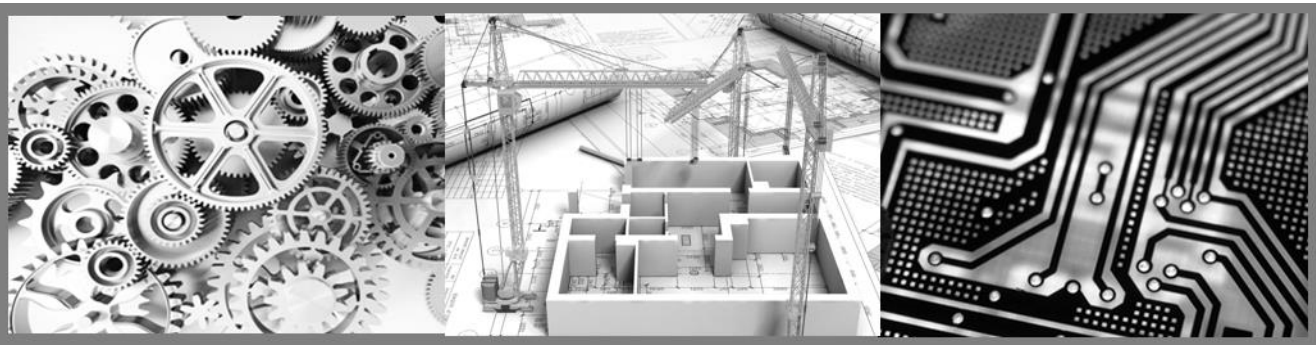
Marathwada Shikshan Prasarak Mandal's

DEOGIRI INSTITUTE OF ENGINEERING & MANAGEMENT STUDIES

Welcome



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Topic Name: Mood Detection From Facial Expression

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Guided By-

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INTRODUCTION

- The interest on emotional computing has been increasing as many applications were in demand by multiple markets.
- The key elements of Face are considered for prediction of face emotions and the user.
- The variations in each facial feature are used to determine the different emotions of face.
- Machine learning algorithms are used for recognition and classification of different classes of face emotions by training of different set of images.

LITERATURE SURVEY

- The study of face and its features is an active research area from past few decades. Pose variation, illumination conditions, bad lighting etc., are still challenging factors faced by all algorithms.
- Face recognition and emotion detection system are the major applications of recognition system, in which many algorithms have tried to solve these problems.
- Fisherface algorithm presents high accurate approach for face recognition; it performs two classes of analyses to achieve recognition i.e. principal component analysis (PCA) and linear discriminant analysis (LDA) respectively.
- principal component analysis (PCA) reduce the dimensionality of the images/frames.

- Face emotion recognition uses support vector machine for finding the different emotions of face and also for classifying them.

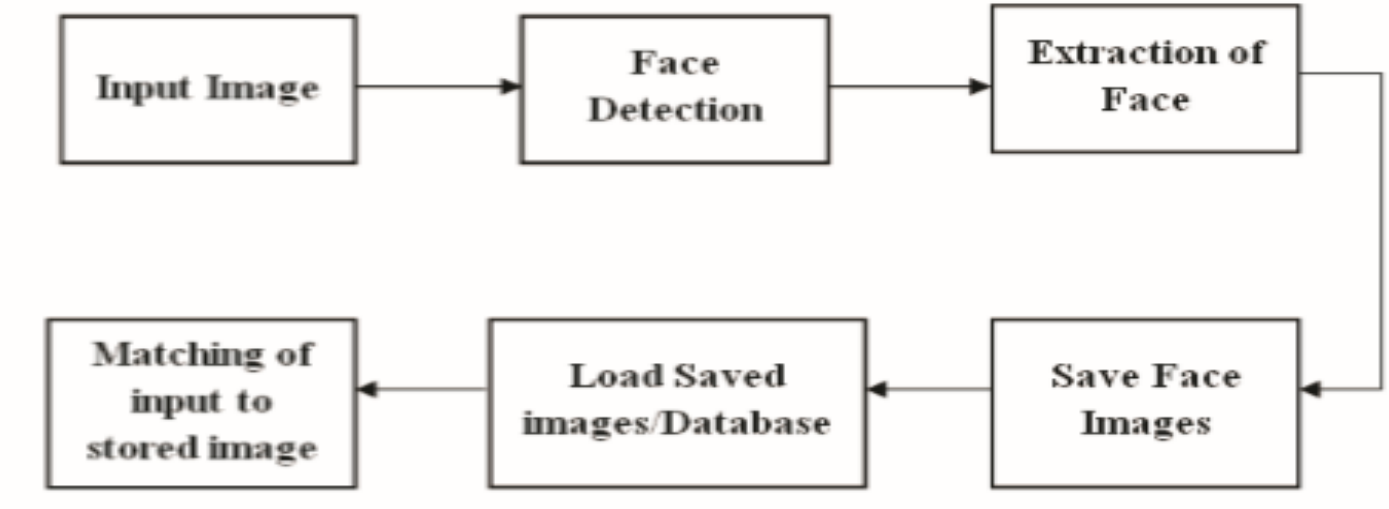

Figure 1: Block diagram of Face recognition system.

- PCA is used to extract the facial features and to reduce the image dimensions. Face is a two dimensional image, for face analysis it is preferred to use two dimensional vector space. Therefore for dimensionality reduction also 2DPCA [4] is best for faces under different poses. 2DPCA is used to remove the unnecessary parts of the image.
  to classify the image data under consideration.

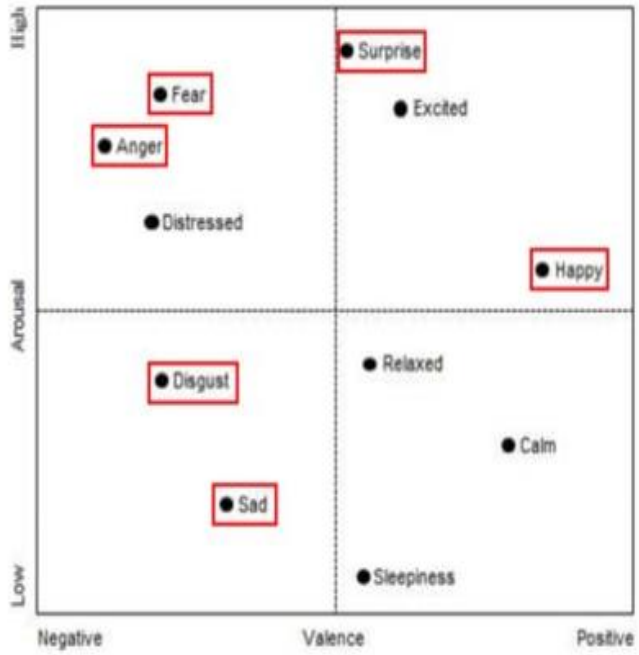

Figure 2. AV model

Positive and negative emotion recognition.

BRIEF ON SYSTEM

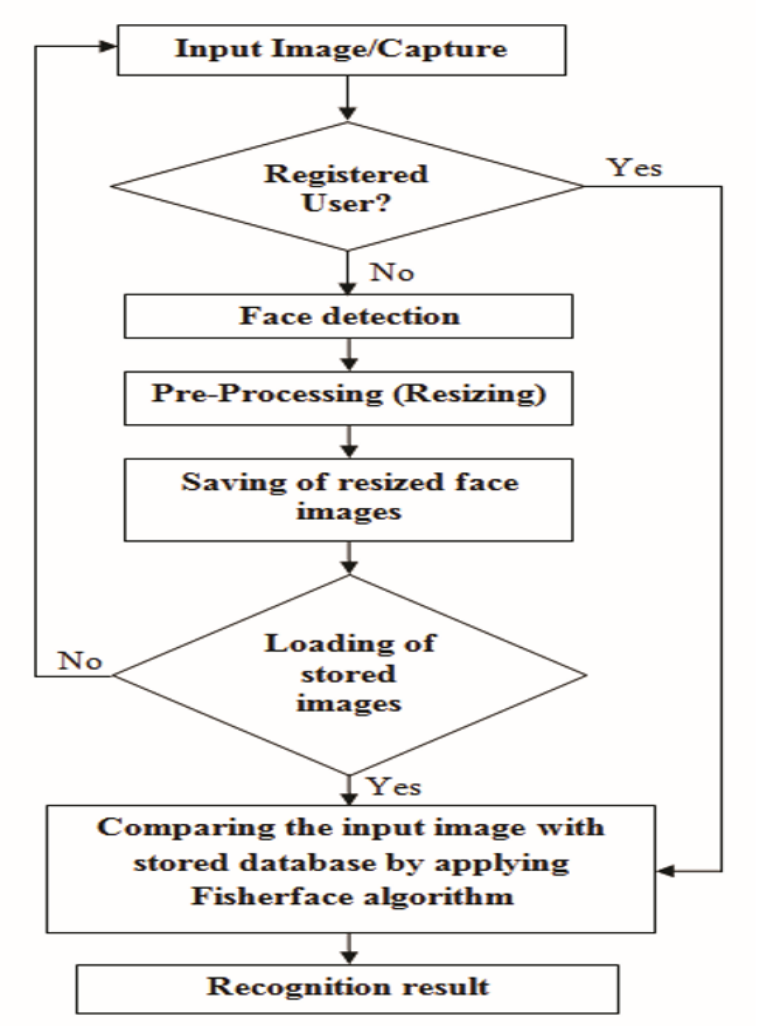

Figure 2: Real time Face recognition system.

SVM ALGORITHM

- The algorithm is designed in such a way that, if the person is recognizing for the first time then the system considers him as a new user and performs each step of operation. But if the person/user data is already stored then it is considered as “Registered user” and it performs only matching operation to recognize the user identity. Open CV contains cascade classifiers in which Viola & Jones face detection algorithm is implemented.
- By using these classifiers the face region is detected from the image. It classifies the images into positive and negative images respectively.

WORKING OF VSM

- In **SVM** algorithm input images are classified into two types,

  o Training images.
  o Testing images

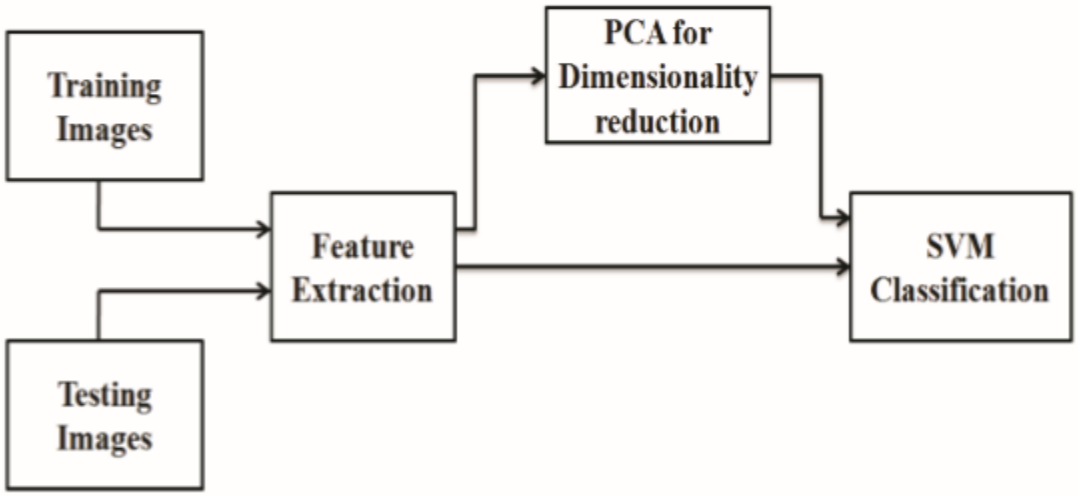

Figure 4: Block diagram of Emotion detection system.

EXPERIMENTAL RESULTS

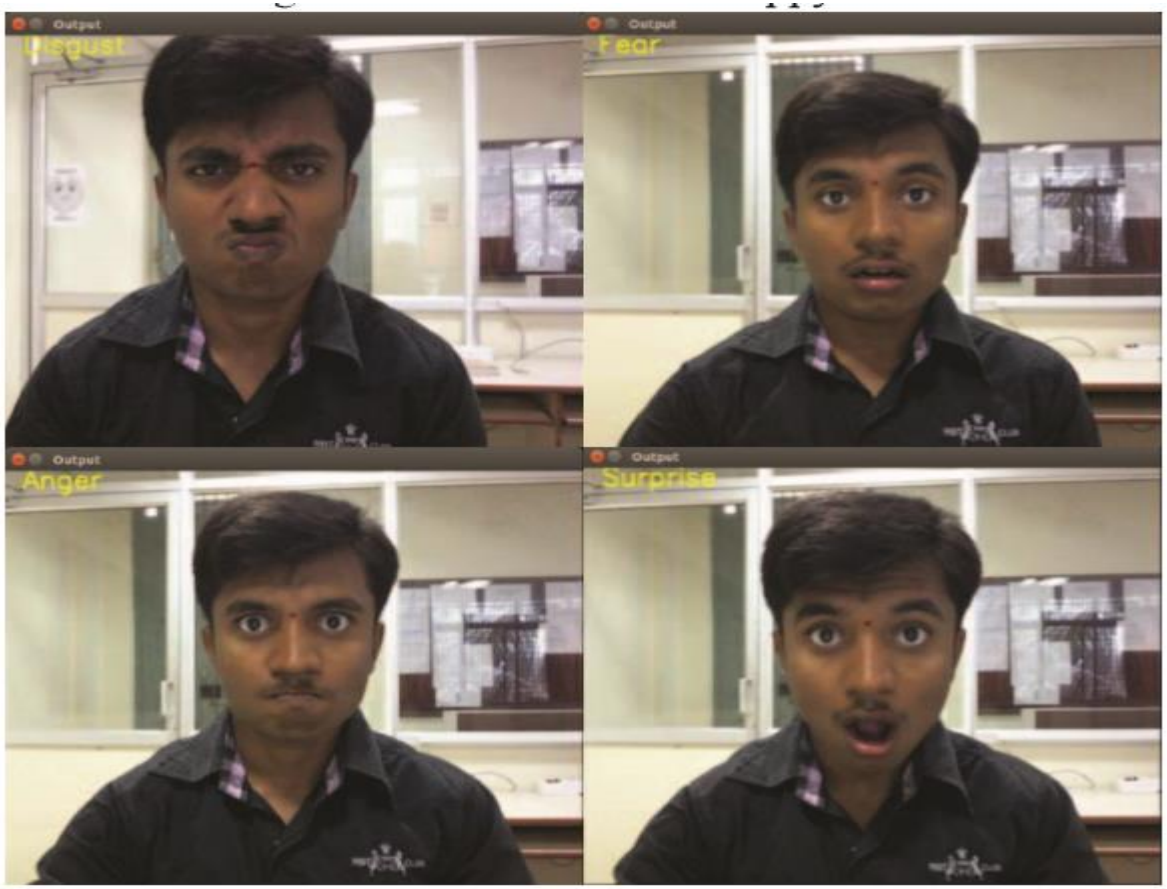

Figure 7.2: Detection of Disgust, Fear, Anger and Surprise faces.

CONCLUSION

- Face recognition which is implemented in real-time helps to recognize the human faces can be used for person identification and authentication purposes. Face emotion detection is implemented using support vector machine classifiers which are capable of classifying different class of emotions accurately.
- The accuracy of both face recognition and emotion detection can be increased by increasing the number of images during training.
- The future work includes the implementation of the system in android improves the availability of the system to more users.

Thank You