FACE EXPRESSION RECOGNITON FOR HUMAN BEHAVIOUR ANALYSIS

A dissertation submitted in the partial fulfillment for the award of Degree of

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SOFTWARE TECHNOLOGY

Submitted by

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July 2014

CERTIFICATE

Date: _____

This is to certify that the Major Project entitled "FACE EXPRESSION RECOGNITON FOR HUMAN BEHAVIUOR ANALYSIS" submitted by **MAYANK SINGHAl**, Roll Number: 2**K11/SWT/13**; in partial fulfillment of the requirement for the award of degree Master of Technology in Software Technology to Delhi Technological University, Bawana Road Delhi; is a record of the candidate's own work carried out by him under my supervision. The matter embodied in this thesis is original and has not been submitted for the award of any other Degree.

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ABSTRACT

In the field of Pattern recognition and computer vision detection of human facial expression is an emerging and active research area. Face detection, facial expression detection and feature classification are key factors for Facial Expression Recognition system. In real world exists problem surveillance cameras yielding low resolution data for recognition and to yield a robust and stable performance we proceeded our research area using LBP (Linear Binary Pattern) as a classifier for feature being extracted. Pre-processing of face feature is done using Gabor wavelet for texture extraction and overcome a standard problem of variation due to pose, lightning and feature. Accurate Partitioning an image into differently textured regions is what is known as Texture Segmentation and requires measurement in both spatial and its frequency domain for which Gabor filters are well recognized.

For our experimental result we have used JAFEE frontal Image Dataset which comprises of various moods of Japanese woman depicting various moods like Happy, Sad, Angry, Surprised etc. Our Objective is to extract feature vector for eyes, Lips & nose from face using SURF and other feature using conventional PCA technique which is used to extract low dimensional and discriminating feature vector from textured filter bank obtained from Gabor mechanism. Using the combination of above two feature vector set when used with LBP as a classifier to distinguish between various human moods yields better improved result as compared to conventional approach being used.