Paper 2 — Bharatanatyam Hand Gesture Recognition using Normalized chain Codes and Oriented Distance

Abstract

Hand gesture recognition is a Very Popular application domain where the System in meant to identify the Signs that are expressive of Some meaningful Context or idea. Due to the Complexities involved in its hand gesture language, it is often difficult to understand Mudras. The paper aimed to explore the hand gesture recognition using Normalized chain Codes and oriented distance. The Paper propose a System to identify Bharatanatyam hand gestures or mudras. The Proces involves a Preprocessing stage Consists of a Skin based Segmentation followed by feature extraction. The features Considered are Centroid, Chain Code, Oriented distances. Extracted features are

used to build the different classifiers and Performance of different classifiers is Compared. Segmentation process is done based on of Skin Colour. Extracted features from the training images are used to build four recognition models Naive Bayes, KNN, Logistic Regression, Multiclass SVM The System shows an accuracy of 85.47 87.06%, 89.83%, 92.3% using models respectively. Comparing the Performance of each models, the Multiclass SVM shows the best Performance. The handgestures is an important fact. Bharatanatyam highlights the use of hand mudras to Project different emotions the dance requires. Every mudra Contribute a specific meaning.

This Process is closely related to the Project 'Mudra classification'. The main aim of our Project to explore different ways to recognize Indian classical dance mudras. SVM plays a Vital role and shows the best Performance out

The Proposed System can be integrated with the facial expression recognition module and Posture recognition module to build a Complete System for giving online training of the dance form by building an interactive System which takes from the Video of the dance for every frame and provides Complete details regarding the mudra. The System is faster as Compared to the existing system.