PAPER: Indian Classical Dance Mudra Classification using HOG Features and SVM Classifier

The Indian classical dances have been part of India's culture from around 200 BC. But the digital understanding of Indian classical dance is a least studied work. The paper explored the possibilities of recognizing the classical dance mudras in various dance forms of India. The various images of hand mudras were collected from the internet and a database was populated for the task. Histogram of oriented (HOG) features of hand mudras input the classifier. Support Vector Machine (SVM) classifies the HOG features into mudras as text messages. The experiment involved only dance mudras from kuchipudi dance form. This is because they are the basic structures for formation of any dance. Five feature vectors and their combination were used to extract features from the mudras.

The work is closely related to the project 'Mudra Identification'. The project too aims to recognize hand mudras from different classical dance forms of India. Here, a video is considered rather than images of dance forms. The idea of histogram of oriented (HOG) features of hand mudras can be exploited in the right manner for the project. The SVM classifier is a great choice for classification problems like the identification of hand mudras