**Face Recognition**

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**Abstract:** This research paper gives an ideal way for Face detection and Face recognition by using Python Programming Language, OpenCV ( CV: Computer Vision), SVM, and the Deep Learning technique CNN algorithm. A face recognition system is a complex image-processing problem in real-world applications with complex effects of illumination, occlusion, and imaging condition on live images. This model is usually applied and preferred for people and security cameras in metropolitan life, for crime prevention, video surveillance, person verification, and similar security activities. We implemented and compared accuracy measures between SVM and CNN. Firstly we adopt Support Vector Machine [SVM] in face recognition by modifying the interpretation of the output of an SVM classifier and devising a representation of facial images that is concordant with a two-class problem. Secondly, Convolutional Neural Network [CNN]Algorithm in this model recognizes various features of image or video frames. CNN model can detect and recognize faces more accurately than SVM. Finally, in this report, we have discussed various ideal ways through which we can recognize a face.

Keywords: Face detection and Face recognition, OpenCV, CNN Algorithm, PCA, and SVM Algorithm.