



**RESEARCH ARTICLE**

# Face detection using a hybrid approach that combines HSV and RGB

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***Abstract— The concept of face detection is very useful in many applications like face recognition, facial expression recognition, face tracking, facial feature extraction, gender classification, identification system, document control and access control, clustering, biometric science, human computer interaction (HCI) system, digital cosmetics and many more [1]. In literature [2]- [10] there are many well-known face detection techniques, which are used to detect a face, but among them we have chosen a very simple and robust skin color based face detection technique. Before that we would like to describe three color spaces namely RGB, HSV, YCbCr [14, 15] for skin color segmentation. After that, we will explain our proposed algorithm, which is basically a combination of HSV and RGB with higher accuracy. Experimental results are used to show that, the proposed method is good enough to achieve 90% accuracy to localize a face in both single and multiple face images.***

***Key Terms: - Face detection, color space, skin color segmentation, localization, RGB, HSV, YCbCr.***

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