

**A NOVEL APPROACH FOR DECISION TREE OCCLUSION DETECTION (DTOD)
CLASSIFIER FOR FACE VERIFICATION AND ESTIMATION OF AGE USING
BACK PROPAGATION NEURAL NETWORK (BPNN)**

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ABSTRACT

The emerging trend in Face Recognition System is based on Occlusion Conditions. Occlusion Detection is one of the major area of Face Recognition System. Occlusion in the face image like one feature can be hide by some objects like (Wearing scarf, sunglasses, beard etc.,) are considered as an occlusion conditions for the Proposed work. The DTOD classifier is based on decision tree c5.0 algorithm is used to classify the Occluded and Unoccluded parts in the facial features. The proposed system have high recognition rate compared with the existing work using decision tree C4.3 algorithm.

The features like, left eye, right eye, left nose, right nose and mouth are extracted using Local Binary Pattern techniques and the features are classified using Decision Tree Occlusion Detection classifier(DTOD classifier). The back propagation Neural Network is used to estimate the human age estimation with wrinkles as a feature. The proposed work was implemented using Decision Tree C5.0 induction algorithm to detect the occluded part efficiently and also the Unoccluded part was taken as an input for the next processing for face verification and age estimation.

KEYWORDS: DTOD Classifier, Occlusion Detection, Age Estimation, Face Recognition