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Iris Recognition using Gabor Wavelet, Harris Corner and Random Forest Classifier

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Abstract – **This paper presents the use of biometric identification through iris recognition, in specific environments that require a high level of security, such as penitentiaries. The image processing technique is utilized to process the human iris database images. It finds the centre coordinates along with the radius for the iris. Noise elimination around the iris image is also performed. The extracted features are the inputs for the random forest classifier which provides the output in the form of class for the identification of the person. In this paper, a hybrid approach of feature extraction based on different combination of Gabor wavelet and Harris Corner method is proposed. Random forest classifier is used for classification of extracted features. The simulation results are tested for the publicly available databases; CASIA iris image database, IIITD CLI iris image database, and achieve outperforming results for the iris matching. The hybrid feature extraction provides 98.9% of accuracy with proposed experimental setup.**

Keywords – **Gabor Wavelet, Iris Recognition, Wavelet Moment, Random Forest Classifier.**