**ABSTRACT**

In this paper, we propose principle line based Palmprint Identification method. In this method to detect principle lines of palm print is with consecutive filtering operations. Smoothing operation is used to remove image noise. Edge detector operation and closing operation are merged to extract the principle lines. Binarization yields the binary principle line. The lines detected with the developed scheme are used to extract textural information using Gray Level Co-occurrence Matrix and Statistical Property Features. Euclidean distance is used for matching to identify the genuine person and the powerful supervised classification techniques namely Support Vector classification Machine and Extreme Learning Machine with kernels like linear, radial basis function is applied to classification. The experimental results on the PolyU palmprint database demonstrate the feasibility and effectiveness of the higher accuracy and reduced execution speed shows that our proposed approach.