Abstract

Automatic human identification is one of the most penetrating tasks to meet growing demand for rigorous security. The usage of biometrics has been largely used in the identification and recognition of criminals and has become an essential tool for law and order enforcement departments. The biometrics-based automated human identification and recognition process is now become highly popular in a wide range of civilian applications and has processed as a powerful substitute to traditional password or token identification systems. Human palms are easier to present and perform for imaging and can reveal a wide range of information. Palm print recognition uses the person's palm as a biometric for identifying or verifying the individuals. The application includes deployment for access control at points of entrance like airports, federal buildings and in highly sensitive places. Our existing work used multiple correlation filters per class for performing palm print classification algorithm. Correlation filters are classified as two classes filters that produce sharp peak for known class and noisy output for unknown sample class using images from the PolyU database. In this work, Advanced and Fast Correlation Based Feature for Palm-print Recognition (AFCBF) is proposed based on modified Correlation Filter classifier with spatial entities to identify more line features of the palm print very efficiently and in a stochastic manner. Experimental assessment using a CASIA Palm print Image database has illustrated the efficient performance of AFCBF compared to the
existing palm-print classification used correlation filter classifiers.

References


Index Terms

Computer Science

Image Processing
Keywords

Gabor Wavelet transform (GWT)  Hamming Distance (HD)  Palm-print orientation code (POC)
competitive code (CompCode)