# Finger Vein Identification Based on Maximum Curvature Directional Feature Extraction

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**ABSTRACT**

*Finger vein identification has become an important area of study especially in the field of biometric identification and has further potential in the field of forensics. The finger vein pattern has highly discriminative features that exhibit universality, uniqueness and permanence characteristics. Finger vein identification requires living body identification, which means that only vein in living finger can be captured and used for identification. Acquiring useful features from finger vein in order to reflect the identity of an individual is the main issues for identification. This research aims at improving the scheme of finger vein identification by taking advantage of the proposed feature extraction, which is Maximum Curvature Directional Feature (MCDF). Experimental results based on two public databases, SDUMLA-HMT datasets and PKU datasets show high performance of the proposed scheme in comparison with state-of-the art methods. The proposed approach scored 0.001637 of equal error rate (EER) for SDUMLA-HMT dataset and 0.00431 of equal error rate for PKU dataset.*