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Convolutional Neural Network-based Finger Vein Recognition using Near Infrared Images (Conference Paper)

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Abstract

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Convolutional Neural Network (CNN) is opening new horizons in biometrics-based authentication field and finger vein recognition is the prominent one which can provide the best possible security system depending on this aforementioned technology. In this paper, we used 5 convolutional layers and 4 fully-connected layers where our developed network has shown the capability to produce the result with almost 100% accuracy rate which became possible due to the fact that deep learning, an end-to-end system is used which performs better in a lot of aspects in comparison to conventional techniques. © 2018 IEEE.

SciVal Topic Prominence

Topic: Biometrics | Feature extraction | finger-vein recognition

Prominence percentile: 88.107

Author keywords

Biometric | Convolutional neural network | Deep learning | Energy security | Finger vein recognition | NIR

Indexed keywords

Engineering controlled terms: Biometrics | Convolution | Deep learning | Energy security | Infrared devices | Infrared imaging | Neural networks

Engineering uncontrolled terms: Accuracy rate | Conventional techniques | Convolutional neural network | Convolutional Neural Networks (CNN) | End-to-end systems | Finger - vein recognition | Fully-connected layers | Near - infrared images

Engineering main heading: Palmprint recognition

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