Abstract

New areas of applications such as: human-computer interaction, access control, surveillance, activity monitoring and clinical analysis depend on hepatic technology. Gait analysis has been explored thoroughly during the last decade as a behavioral biometric feature which doesn’t require subject interaction. In this paper, persons can be recognized from their gait regardless of the angle of walking seen. The performance of four artificial neural networks (ANNs) based classifiers was evaluated and tested, based on spatiotemporal features. The results show that discrete wavelet transforms and support vector machine recognition technique provides a recognition rates up to 94%. Moreover, it is characterized by speed and accuracy compared with other classifiers.

References

- S. Yu, et al, A study on gait based gender classification, IEEE transaction on image
A Comparative Evaluation Study of Automated Gait Recognition based on Spatiotemporal Feature and Different Neural Network Classifiers


H. Lu, P. Venetsanopoulos, A layered deformable model for gait analysis, 7th International Conference on Automatic Face and Gesture Recognition, April 2006, pp. 249-254


Lakhmi Jain, Anna Maria, Recent advances in artificial neural networks design and applications. 2000 by CRC press LLC

MATLAB 2011. b, Neuro-Solutions 5

S. Yu, D. Tan, T. Tan, A framework for evaluating the effect of view angle clothing and carrying condition on gait recognition, 18th International Conference of Pattern Recognition, vol. 4, Hong Kong, China, 2006, pp. 441-444.


Index Terms

Computer Science

Artificial Intelligence

Keywords
Gait energy image  discrete cosine transform  discrete wavelet transform  principle component analysis

support vector machine

multilayer perceptron

radial basis function

generalized feed forward network