World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:12, No:05, 2018

Human Action Recognition Using Wavelets of Derived Beta Distributions

Authors : Neziha Jaouedi, Noureddine Boujnah, Mohamed Salim Bouhlel

Abstract : In the framework of human machine interaction systems enhancement, we focus throw this paper on human behavior analysis and action recognition. Human behavior is characterized by actions and reactions duality (movements, psychological modification, verbal and emotional expression). It's worth noting that many information is hidden behind gesture, sudden motion points trajectories and speeds, many research works reconstructed an information retrieval issues. In our work we will focus on motion extraction, tracking and action recognition using wavelet network approaches. Our contribution uses an analysis of human subtraction by Gaussian Mixture Model (GMM) and body movement through trajectory models of motion constructed from kalman filter. These models allow to remove the noise using the extraction of the main motion features and constitute a stable base to identify the evolutions of human activity. Each modality is used to recognize a human action using wavelets of derived beta distributions approach. The proposed approach has been validated successfully on a subset of KTH and UCF sports database.

Keywords : feautures extraction, human action classifier, wavelet neural network, beta wavelet
Conference Title : ICCAIP 2018 : International Conference on Computer Analysis of Images and Patterns
Conference Location : Paris, France
Conference Dates : May 17-18, 2018