

عنوان مقاله:

Human Action Recognition by RANSAC Based Salient Features of Skeleton History Image Using ANFIS

محل انتشار:

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خلاصه مقاله:

In this paper, a new approach using Adaptive Neuro-Fuzzy Inference System (ANFIS) as a human action recognition system is proposed. ANFIS is an intelligence method which combines both fuzzy inference system and neural networks. The basis of the method is the representation of each action as a bivariate histogram that is computed from skeleton history image in one action duration. Skeleton image is extracted from the human silhouette in each frame then these images gather to generate skeleton history image. This approach automatically performs segmentation on the feature space with RANSAC algorithm to select some features yielded better results. Also some actions, which are similar in spatial features such as 'sit down' and 'stand up' but they are inverse in temporal domain, are discriminated with temporal window implemented in the first half duration. Real human action dataset, Weizmann, is selected for evaluation. The resulting average recognition rate of the proposed method is 98.3%.

کلمات کلیدی:

Human action recognition, skeleton history images, Adaptive Neuro-Fuzzy Inference Systems, RANSAC algorithm, Bivariate histogram

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