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Dynamic gesture recognition based on the probabilistic distribution of arm trajectory

Abstract

The use of human motions for the interaction between humans and computers is becoming an attractive alternative, especially through the visual interpretation of the human body motion. In particular, hand gesture is used as a non-verbal media for the humans to communicate with machines that pertains to the use of human gesture to interact with them. Recently, many studies for recognizing the human gesture have been reported, and most of them deal with the shape and motion of hands. This paper introduces dynamic gesture recognition based on the arm trajectory and fuzzy algorithm approach. In this study, by examining the characteristics of the human upper body motions of a signer, motion features are selected and classified by using the fuzzy technique. Experimental results show that the use of the features extracted from the upper body motion effectively works on the recognition of the dynamic gesture of a human, and gives a good performance to classify various gesture patterns.

Keywords — Probabilistic distributions, engineering controlled terms, engineering main heading, gesture recognition, fuzzy algorithms.