HAND GESTURE DETECTION AND EXTRACTION

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Abstract

A novel algorithm for detecting and extracting hand gestures is proposed which uses an on-line adaptive learning approach to fit the hand skin color distribution of each individual user in various environments. The on-line adaptive skin-color learning approach is designed by two strategies: negative skin-color exclusion and dynamic skin-color standard deviation. Negative skin-color exclusion can effectively remove the invalid skin-color pixels through a skin-color and non-skin color histogram discrimination. Dynamic skin-color standard deviation can derive the most appropriate range for skin-color judgment. Experimental results show the proposed method can detect and extract hand gestures more accurately than other methods.

Keyword：Hand detection, Hand tracking, Skin color learning, Edge difference image