عنوان مقاله:

Accurate Fingertip Positioning and Tracking Using Depth Image For Human Computer Interaction

محل انتشار:

چهارمین کنگره بین المللی مهندسی برق، کامپیوتر و مکانیک (سال: 1399)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Shahla Ebrahimi - *Department of Electronic Engineering, K. N.Toosi University of Technology, Tehran, Iran*

Amir Moosavie Nia - *Department of Electronic Engineering, K. N.Toosi University of Technology, Tehran, Iran*

خلاصه مقاله:

Hand gesture and particularly fingertips tracking, is considered by many scholars recently and has been addressed by many applications in human computer interaction. In this research, a new robust fingertips tracking method is presented based on depth images achieved by the Microsoft Kinect device. Using a morphologic erosion filter on the binary image, fingers are omitted. The center of the palm is now measured using the center of mass equations. In the next step the contour of whole hand is extracted. Now the Euclidean distance of points on the contour and the center of palm is plotted. Using the K-means algorithm the position of fingertips is calculated. Finally a 3D particle filter is used to track the fingertip points. Empirical results show an average recognition rate of 97/6% for each fingertip.

کلمات کلیدی:

human computer interaction, fingertip detection, fingertip tracking

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1039277