ABSTRACT

The thesis: 72 p. , 25 fig., 6 tabl., 10 sources and 2 appendices.

The theme of this thesis is "Human hand detection on video".

The purpose of this thesis is to implement and analyze 3 approaches of human hand localization in video stream. In the thesis were realized the following methods: background subtraction, color filter based on Bayes classifier and processing the video stream from depth camera.

Thesis results:

- 3 methods of human hand localization in video stream were implemented;
- for each method were analyzed the optimal working conditions;
- proposed a convenient way for Bayes classifier training;
- made a comparison of methods.

Current thesis results are proposed for using in computer-human interaction systems. In further researches it is reasonable to implement adaptive approaches for Bayes classifier to changing illumination conditions and create a computer-human interaction system based on realized approaches and gesture recognition with support vector machine or neural networks.

OBJECT RECOGNITION, COMPUTER-HUMAN INTERACTION, DEPTH CAMERA, BAYES CLASSIFIER, COLOR SPACE.