EBERHARD KARLS
UNIVERSITÄT
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Mathematisch-Naturwissenschaftliche Fakultät
Fachbereich Informatik
Kognitive Systeme (Prof. A. Zell)

Bachelorarbeit

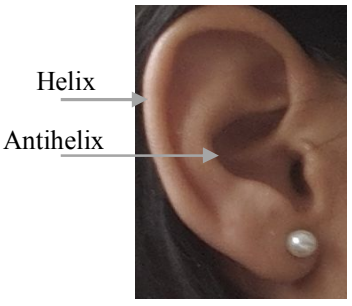
Detection of Detailed Head Features

The popularization of RGBD Sensors such as the Microsoft Kinect and the Asus Xtion Pro Live has accelerated the development of a huge number of applications in the field of image processing and computer vision. We have been working on the extraction of anthropometric head measurements such as head width and depth, and helix height [1]. This work has been done using only depth data. However, we want to take advantage of the innumerable qualities of the color information given by the sensors and we want to extend our research to the extraction of face features that could help the identification of subjects.

The goal of this bachelor thesis is to detect detailed head features on 2D images. The images will be acquired using different RGBD sensors such as Orbbec Astra S and Asus Xtion Pro Live. The features to be detected include (but are not limited to): ear helix and antihelix, eye and mouth perimeter, and nose shape. Experiments will be performed on dummy heads and human subjects.

Requirements:

- Knowledge in geometry and linear algebra
- Knowledge in image processing
- C++ programming under Linux



[1] I. Patino Mejia and A. Zell. Head Measurements from 3D Point Clouds. In the 6th Int. Conf. on Image Processing Theory, Tools and Applications (IPTA), Finland, Dec 2016.

Kontakt

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