

TrustEYE

Trustworthy Sensing and Cooperation in Visual Sensor Networks

The Pervasive Computing Group is looking for a student from the field of Information Technology or Computer Science for a **research project** or a **Bachelor / Master thesis** entitled:

Experiments with 3D Imaging Tools

This work will be performed as part of the TrustEYE research project. Background information about the TrustEYE project and its goals can be found at <http://trusteye.aau.at>

Work Description

In order to avoid privacy violations of video surveillance systems it is essential to **hide** the **identity** of people captured on the recordings. On the other hand the **utility** level of the system has to be maintained, so that **abnormal activities** can still be **detected**. For this purpose it is required to collect as many **extra** privacy-independent **information** as possible. One way of doing this is to extend traditional video cameras with **additional sensors** (e.g. laser, ultrasonic, infrared) or to use **3D cameras**, and extract **depth data**. Activity detection can be more accurate with this extra information even if identities are hidden (e.g. blurred, pixellated) in the video stream. The main objectives of this project are to **discover** different sensors and 3D cameras already available on the market, and to carry out some **experiments** with them to determine their performance, power consumption, accuracy of depth data, usefulness in privacy preserving surveillance, etc.



Required Skills:

- C/C++
- Geometry, Image processing

Desired Skills:

- Basic experience with electronics/digital technology
- Basic experience with microcontrollers and sensors
- Linux



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