

Implementation and Evaluation of an Open Source Stereo Camera

Master Thesis/Project Proposal in Robotics



One of the fast growing areas for robot localization, and allowing robots to perceive their environment is Machine Vision - but the area of machine vision sensors (cameras / stereo cameras) is very proprietary. We aim to make the area of machine vision easier to adopt by creating one of the first Open Source stereo cameras!

- This is a continuation of a previous master thesis where the VHDL for the image processing pipeline was created and evaluated.
- The main aim is to implement and evaluate the hardware in an FPGA to read and configure the cameras, while transferring the data over USB 2.0/3.0.
- As a final demo some image processing on the camera streams will be implemented.
- A good background in VHDL is needed.
- You will be in tight discussion with a supervisor for guiding your development and learning.

The estimated duration of the thesis is 6 months, while visits to the Luleå University of Technology in Sweden could be part of the thesis.

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