Thesis

Tractor surroundings monitoring using multi-camera setup

Introduction

The so-called "bird view" camera is a recent concept that involves having cameras positioned around a vehicle to give the driver a better view of their surroundings.

For agricultural uses this is likely to involve having several cameras to give the driver a 360° view of the tractor + towed implement for better manoeuvring.

The Chair is developing a proof-of-concept and is seeking an enthusiastic student to take the first steps using four or more cameras. The focus is in calibration routines and image processing.

Aims:

- Implementing data-fusion techniques for multi-camera setup
- Researching camera synchronization aspects
- Use the OpenCV library to stitch together the images from the different cameras
- Display 360 view to the tractor operator

Prerequisites

- Interest in agricultural engineering
- Structured and independent way of working
- Good written and spoken English
- Programming skills (C/C++)
- Experience with OpenCV is not required

If you have *any* further questions, please send an email to the contact person.

Start: July-September 2022

Send your application by email to samuel.brodie@tum.de including your current **transcript of records**

Advisor: Sam Brodie M.Eng
samuel.brodie@tum.de

https://www.amx.wzw.tum.de/