

Research Project/Master's Thesis

Absolute indoor pose estimation in aerial robotics

Background

Precise absolute pose estimation is essential for the use of multicopters close to objects. Currently, a localization system from the field of VirtualReality (HTC Vive) is used in the drone laboratory at Marschnerstraße. The evaluation of the sensor data is done via the proprietary software SteamVR. However, this is optimized for VR use and does not meet the requirements for use in aerial robotics. The goal of this thesis is therefore the adaptation and further development of an alternative open source evaluation software (libsurvive) for use in the drone laboratory.

Possible work packages

- Integration of the libsurvive library into the existing framework for pose estimation
- Improvement of the initialization process to achieve absolute position accuracy
- Investigation and improvement of the real-time capability and position accuracy of the system



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Prior Knowledge

- Computer Vision (optional)
- ROS (optional)
- German language skills