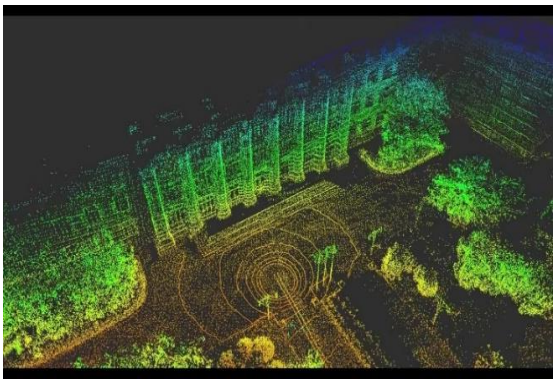
Schreibe deine Abschlussarbeit im
Technologietransferzentrum unbemannte Flugsysteme

Bachelorarbeit – Thema

Development and Implementation of a Simultaneous localization and mapping (SLAM) System for Mobile Robots using ROS and Computer Vision



This project is aimed at advancing the autonomous navigation and mapping capabilities of quadrotors by incorporating a sophisticated SLAM (Simultaneous Localization and Mapping) system. Utilizing the Robot Operating System (ROS) alongside computer vision technologies, the initiative will focus on algorithm development, system implementation, and comprehensive evaluation to enhance the precision and efficiency of aerial navigation. This endeavor will significantly contribute to the evolution of intelligent mobility solutions, with an emphasis on autonomous environmental comprehension and interaction from an aerial perspective.

Ihre Aufgaben

The project will involve the development of a SLAM system tailored for a mobile robot platform. The key tasks include:

- Conducting a comprehensive literature review on SLAM technologies, with a focus on applications in mobile robotics and integration with the Robot Operating System (ROS).
- Developing algorithms for real-time localization and mapping using computer vision techniques and sensor fusion.
- Implementing the SLAM system in ROS, ensuring compatibility with different robotic platforms.
- Analyzing the impact of various environmental factors on system reliability and proposing improvements.

Ihr Profil

The ideal candidate for this project should have:

- A background in computer science, robotics, or a related field, with a focus on computer vision.
- Expert in Robot Operating System (ROS).
- The ability to work independently and creatively solve problems, with a keen interest in robotics and autonomous systems.

Kontakt

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