

Master Thesis Opportunity – Multimodal navigation for mobile C-arms

Are you interested in interdisciplinary research and image processing in the medical technology field directly at TUM University Hospital? Would you like to make clinically approved medical devices more intelligent through targeted sensor integration and smart algorithms? Then apply for the master's thesis position at the interface between technology and medicine and work on further developing mobile C-arms. The MITI research group offers you insights into everyday work in surgery and medical technology or robotics, which will guide the requirements of your work.

Your work will involve interdisciplinary research and combine various tasks, including literature review, SLAM algorithms, RGB-D-based navigation, multimodal sensor data fusion, and the user-friendly representation of results in a GUI. For this master thesis you should have a sound understanding of sensor data fusion and SLAM algorithms, as well as a strong interest in applied research at the hospital. This thesis requires on-site work, as access to a research operating room is necessary to test and validate the developed algorithms in realistic conditions.

Be part of our collaborative research project between the MITI research group at the TUM University Hospital and the Siemens Healthineers AG.

Requirements:

- You are enrolled in a technical master's program at TUM
- Interest in medical technology and sensor integration
- You have good knowledge and practical experience in working with sensor data fusion, SLAM-based navigation, RGB-D cameras, Python, C++, Qt and GUIs
- You have good knowledge of English and/or German
- You work in a structured, independent and careful manner

Start of work: as soon as possible

If you have become curious and would like to be part of our team during your master thesis, please apply to us with your CV and proof of grades. We would be pleased to receive a brief description of your interests and previous experience.

Please send your application to: nin.mueller@tum.de