



Image-guided Robotic Microsurgery

Project Management and Software Development
for Medical Applications

General Info

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Project Abstract

The chair for computer aided medical procedures together with the eye clinic at Klinikum Rechts der Isar is offering a student project (Thesis / HiWi) for an exciting project related to a robotic setup for retinal microsurgery. The student is supposed to work in a multidisciplinary team of engineers and eye surgeons to develop an imaging system for surgical navigation.

Background and Motivation

The Student will work on two existing robotic setups which are being developed since 2011 at the clinic and both are state of the art machines for microsurgery. All required software and hardware will be available and the project will be performed at the robotic eye surgery lab located at Klinikum Rechts der Isar.

Student's Tasks Description

The main objective of this project is to develop a tracking system for surgical instrument navigation and localization.

Technical Prerequisites

- Good background in Robotics and Computer Vision (At least one of them)
- Skills in C++
- Good background in mathematics
- Knowledge of CAD design and 3D printer will be a plus