Scope
The division of Translational Surgical Oncology at the National Center for Tumor Diseases (NCT) investigates computer- and robot-aided surgical assistance systems at the intersection of Computer Science and Medicine. In this project, we focus on the task of organ segmentation of laparoscopic images. Standard approaches offer decent results. However, those approaches do not incorporate the temporal context, which could make a difference especially for small and difficult to recognize structures.

Your tasks
- Training of Deep Neural Networks with Temporal Context for Segmentation
- Comparison of different places of Temporal Convolutions in Neural Networks
- Comparison of different number and frequencies of included frames while maintaining real time requirements
- Comparison of suitable network architectures

We are looking for:
- a motivated student interested in interdisciplinary work in the field of computer- and robot-assisted surgery
- Programming skills (Python)
- Dedication, team spirit and motivation to contribute own ideas
- Basic knowledge in Deep Learning and Computer Vision preferred but not required

Contact:
Stefanie Krell
stefanie.krell@nct-dresden.de