Studienarbeit / Diplomarbeit / SHK / WHK

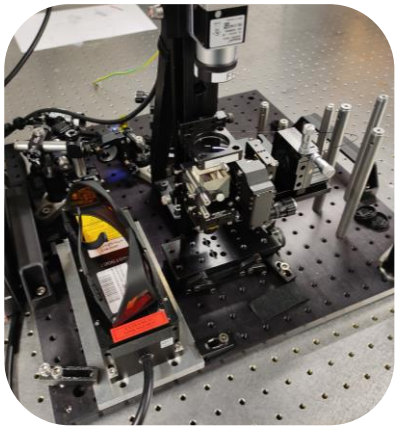
AI-assisted endoscopic tissue differentiation in neurosurgery

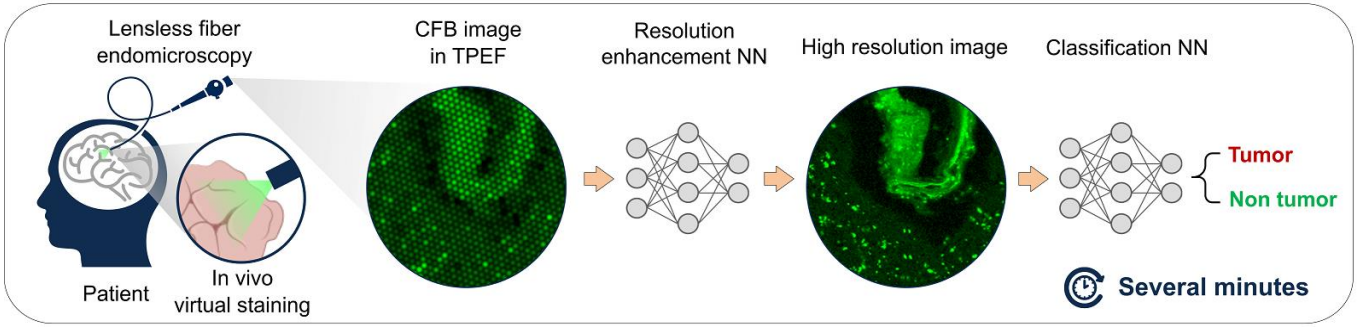
Keywords

endoscopy, cancer diagnostics, neural networks, lab work

Motivation

In this project, the spectral properties of the fluorescence of brain tumors are investigated and a miniaturised endoscope is developed to enable optical intraoperative biopsy. The development of a tissue characterization and an AI-supported diagnosis should enable a smooth integration into the clinical work routine in the future. The *in vivo* tumor diagnosis avoids the removal of brain tissue and its lengthy pathological examination, and would make it possible to start therapy for affected patients at an earlier stage.





Tasks

- Characterization of different endoscopes (Lab work, Hardware side)
- Automation of a measurement process of real tissue samples for the training data of neural networks at the university hospital with (Matlab, Software side)

Contact

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