Scholarship in Hyperspectral Imaging for Improving Surgery

Topic

We are advertising one position for an internship starting at the beginning of 2021 to join our team and to work on an exciting project. You will be working on the topic of machine learning-based automatic analysis of hyperspectral images (HSI) captured during surgery. HSI is a technique that acquires multiple 2D images at different bands in the electromagnetic spectrum, generating a 3D image 'cube'. Data contained in this cube can reveal biological characteristics of healthy and cancerous tissue, which can allow surgeons to make better decisions for identifying and resecting tumours. However HSI data cannot be easily understood by surgeons. Machine learning, and in particular Deep Learning is an essential tool to automatically discover patterns in the data and to inform the surgeon during a procedure. Your objective will be to continue the work we have done in IRCAD on this topic and specifically to prototype algorithms with a large-scale dataset captured at our partnered hospital.

Work environment

You will work within a professional team of data scientists, software engineers and surgeons and be supervised by an expert in surgical data science in IRCAD. You will work at IRCAD in Strasbourg, France full time for approximately 6 months. You will collect hyperspectral data in both preclinical and clinical operating rooms. This is an excellent opportunity to gain experience in state-of-the-art data science and medical applications, within a professional environment.

Requirements

We are looking for an MD candidate with a recent qualification in surgery and with a sound knowledge on intraoperative optical imaging. You should be highly self-motivated to solve technically difficult problems, be highly organized and have excellent communication skills (fluency in French and proficiency in English is preferred).

Contacts

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