

Develop artifact removing algorithm for clinical TD NIROT

Join the cutting-edge research of NIR imaging with BORL – help us saving preterm infants lives



Wanted: master or bachelor student

Goal: Design a pipeline for artifact correction in clinical data in time-domain near-infrared optical tomography (TD NIROT)

Date: earliest possible date **ASAP !**

We are looking for a highly motivated **master or bachelor** student, who is ready to face challenges in research and engineering. Together we will further develop NIR imaging technology for neonatal brain, namely:

development of artifact removing algorithm for clinical TD NIROT

In this project, you will help us process data from an ongoing clinical campaign in preterm babies. We aim at retrieving 3D tomograms of cerebral oxygenation in the most tiny and fragile human beings using near-infrared light. You will focus on signal processing for artifact correction caused by neonatal head shape anatomy, movements, ambient light, etc. Deep learning approach is very welcome.

The project is hosted by Biomedical Optics Research Laboratory (BORL), Dept. of Neonatology, University of Zurich. The lab has an expertise in NIRS and NIROT, including clinical applications. We are an interdisciplinary team with a great spirit that offers you an exciting environment.

Qualifications: Skills in signal processing and data analysis (Matlab, Python). Any knowledge on Physics, Optics, and NIRS is very welcome.



Key words: NIROT, preterm brain oxygenation, deep learning, signal processing

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