

## **PhD student in Neuroimaging, Computational Geometry and Machine Learning**

(m/w/d, 100% in Bern)

Admission immediately or upon agreement, duration 4 years

At the Support Center for Advanced Neuroimaging (SCAN, [www.scancore.org](http://www.scancore.org)), our goal is to investigate advanced neuroimaging technologies and to develop innovations for future clinical applications. We are passionate about transforming methodological developments into clinical practice.

As part of the project 'ScanOMetrics – Open-Source Brain Morphometry Assessment for Clinical Routine Using Explainable Deep Learning' funded by the Swiss National Science Foundation (SNF, [www.snf.ch](http://www.snf.ch)), we are recruiting a motivated PhD student for four years (100%).

In this project, we will leverage recent advances in deep learning based algorithms for segmentation and registration of T1-weighted brain MRI to develop an open source software that can be used for research and clinical purposes alike. Our focus will be on providing interpretable morphometric variables beyond cortical thickness and grey-matter volume as well as on quick and robust application in non-research settings.

### **Your Responsibilities**

- Development of algorithms to extract local and regional variables of brain morphometry from MRI
- Deep learning based image segmentation and registration
- Scientific evaluation of results
- Interaction with local researchers/clinicians and members of our partner group at University of Newcastle (UK)

### **Your Profile**

- Master in a scientific discipline with a strong mathematical and computational component
- Good knowledge of Python 3 and experience with a deep learning framework (Tensorflow or Pytorch)
- Experience with Matlab or Octave scripting
- Experience with R
- Knowledge of computational geometry and computer graphics

### **The package**

- We are offering a position as a PhD student in a state-of-the-art research environment in one of the largest Neuroradiology Departments in Europe. The position is based at the Support Center for Advanced Neuroimaging, Inselspital Bern, Switzerland.
- Prior knowledge of medical imaging is appreciated but not required: a desire to develop solutions to real-world problems is essential. You will work in an interdisciplinary team of physicists, biomedical engineers, computer scientists and medical doctors.
- The preferred start date is January 2022 or upon availability.
- We embrace diversity and equal opportunity. The official language at the Lab is English.

### **Contact**

For more information, please contact

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