PhD Candidate imaging/machine learning

Researchers at Vestfold Hospital Trust (Sykehuset i Vestfold; SiV) and the Oslo University (Oslo universitetssykehus; OUS) hospitals are working together on a stroke imaging project titled: "**Real-time radiology support to treat intracerebral hemorrhage**" (**READOUT-ICH**). Context: Intracerebral hemorrhage (*ICH*) has the ominous distinction of being the deadliest type of stroke. Mission: Improve treatment and rely on rapid diagnosis and maximizing information from acute stroke imaging with novel image analysis methods.

The successful candidate will embark on a 3-year PhD project fully funded by the The South-Eastern Norway Regional Health Authority. The project will be administered at SiV in Tønsberg, and the PhD fellow will also become a member of the Computational Radiology in Artificial Intelligence (CRAI.no), which is situated at Rikshospitalet OUS campus and part of the Department of Physics and Computational Radiology within Radiology and Nuclear Medicine at OUS. The ideal candidate has experience in the analysis of medical image data, and particularly the use of machine learning in image analysis. The locations for the research include SiV and CRAI.

The READOUT-ICH team consists of imaging physicists, clinician-scientists in radiology, neurosurgery, neurology, and computer scientists. The team has vibrant collaboration within and external to Norway. The successful candidate will deploy cutting-edge deep learning tools to further improve analysis methods using primarily computed tomography images. External validation of CRAI tools is a key component to the current project.

SiV and OUS are workplaces with great diversity. We believe that this diversity is crucial to solving the tasks required of us. Therefore, we want this diversity to be reflected among the applicants for our positions and encourage everyone to apply regardless of who you are and what background you have.

Application Deadline: 10/09/2024
Employer: Sykehuset i Vestfold
Position Title: PhD Candidate
Form of Employment: Engagement
Employment Rate: 100%
Start Date: 01/10/2024
End Date: 30/09/2027

Scope of PhD Research and Responsibilities:

- Further develop and improve existing artificial intelligence (AI) deep learning models using best practises (e.g following from MONAI.io and nnU-Net benchmarks).
- Integrate AI tools across different data sources (retrospective and prospective) and evaluate their use / efficacy to demarcate ICH stroke features in imaging.
- Initiate comparisons with industry standard stroke segmentation tools.
- Help to develop an imaging database for model training through close interaction with domain experts and CRAI software team.

Qualifications:

- Documented experience in medical image analysis, particularly focused on CT and MRI.
- Good knowledge of medical image formats.
- Experience in developing deep learning models for radiology using PyTorch/Python.
- Master's degree in physics, engineering, medical technology, computer science, or equivalent is required.
- Documented experience in neuroscience and/or clinical research.
- Evidence of research experiences as reflected by scholarly activities (e.g. peer-reviewed publication, conference proceeding)

Personal Characteristics:

- Ability to collaborate across different professional environments.
- Desire to pursue independent research and develop critical thinking.
- Enjoy working in a large and complex organisation.

We offer:

- A workplace characterized by trust, openness, and respect
- A safe workplace with good colleague support
- Good opportunities for professional and personal development
- You become part of an important social mission

Interested candidates can email contact@crai.no and include "READOUT-ICH" in the email subject line, or contact the PI directly at ingemus@hotmail.com.

Formal applications **must** be submitted using the following career "webcruiter" portal.

https://2411.webcruiter.no/Main2/Recruit/Public/4835576326?_sp=92dfe81c-caa0-4b1b-85bb-8e39f5415bf4.1721708741375&language=nb&link_source_id=0