JOB OFFER
Software developer

Development of software for analysis of multimodal medical imaging data

Keywords: image analysis, medical imaging, software development, brain diseases

The topic: building aggregated representations from multimodal medical imaging data

The ARAMIS lab develops automatic tools to assist clinicians in the diagnosis and prognosis of neurological diseases. These tools are based on measurements that are extracted from various brain imaging modalities like Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET). Typical examples of such measurements include parametric maps in voxel space, geometrical surfaces and curves… Different types of measurements need to be combined into aggregated representations such as functional measures mapped onto anatomical surfaces or fiber tracts. Statistical methods are then applied to these representations to detect abnormalities in populations of patients.

Your mission:

You will be in charge of developing software tools for processing multimodal medical images and for building aggregated representations, with a specific focus on PET and MRI data. To that purpose, you will develop and validate tools to map and analyze PET functional data onto anatomical surfaces extracted from MRI. You will also implement pipelines to perform pre-processing of PET data. In link with the other members of the team, you will also be in charge of integrating all the developed tools into the software platform of the team devoted to multimodal image analysis and connecting them with the database management system. Finally, you will deploy the tools on large databases of patients using our distributed computing infrastructure.

A vibrant scientific, technological and clinical environment:

You will work within the ARAMIS lab (www.aramislab.fr) at the Brain and Spine Institute (http://www.icm-institute.org), one of the world top research institutes for neurosciences. The institute is ideally located at the heart of the Pitié-Salpêtrière hospital, downtown Paris.

The ARAMIS lab, which is also part of INRIA (the national French research institution for computer science), is dedicated to the development of new paradigms for the statistical exploitation of large neuroimaging and clinical data sets.

You will be strongly involved in scientific aspects of the work, such as discussion of methodological issues and interpretation of results. You will interact locally with the PhD students, postdoctoral fellows and engineers of the ARAMIS lab, as well as our medical

collaborators at the Salpêtrière hospital. You will take part in the communications and publications resulting from the use of the software.

Your profile
- Engineer in computer science or electrical engineering
- Strong knowledge of digital image processing
- Strong programming skills in Python
- Training and/or experience in image processing would be strongly appreciated
- Good relational and communication skills to interact with professionals from various backgrounds.

Ready to take up the challenge?
send your CV to Stanley.Durrleman@inria.fr and Olivier.Colliot@upmc.fr

ARAMIS Laboratory
Brain and Spine Institute (ICM)
CNRS UMR 7225 – Inserm U1127 – University Pierre and Marie Curie
Inria Paris Center
http://www.aramislab.fr
Twitter : @AramisLabParis