

JOB OFFER

Lead software developer Brain image analysis

Keywords: Python, neuroimaging, image analysis, medical imaging

The topic: Clinica – Open Source software for brain image analysis

The ARAMIS lab develops the Open Source software Clinica (www.clinica.run), an end-to-end solution for brain image analysis. Clinica allows users to easily analyze large-scale clinical studies with advanced computational tools. To that purpose, it integrates tools for data management, image preprocessing for different modalities (anatomical MRI, diffusion MRI, PET), feature extraction, machine learning and statistics. Clinica is distributed freely to the scientific community and has 400+ users worldwide. It has been used to produce high impact medical publications which have advanced the understanding of neurodegenerative diseases such as Alzheimer's disease, fronto-temporal dementia and amyotrophic lateral sclerosis. It is also widely used by researchers who apply machine learning to the diagnosis of brain diseases.

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- Wen J, Thibeau-Sutre E, Diaz-Melo M, ..., Durrleman S, Burgos N, Colliot O, Convolutional Neural Networks for Classification of Alzheimer's Disease: Overview and Reproducible Evaluation. **Medical Image Analysis**, 63: 101694, 2020

Your mission

You will be the lead software developer of Clinica. As such, you will be in charge of:

- development of new features (image processing pipelines, traceability, visualization),
- validation of new analytic tools,
- project management (task follow-up, issue tracking, meeting organization),
- software maintenance,
- user support and animation of the community
- contribution to training and dissemination organized with the other engineers of the Inria center

In addition, you will be presenting the software at international scientific conferences and other events (organized for instance by Inria, ICM, CNRS...). Finally, you will contribute to ambitious medical studies, by deploying Clinica on large databases of patients, contributing to the interpretation of results and providing assistance to medical users (internal to the lab and external collaborators).

A vibrant scientific, technological, clinical and ethical environment

You will work within the ARAMIS lab (www.aramislab.fr) at the Paris Brain 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 French National Institute for Research in Digital Science and Technology), is dedicated to the development of new computational approaches for the analysis 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. You will take part in the communications and publications resulting from the use of the software.

Your profile

- PhD degree or Master+experience in the field of medical imaging
- Strong programming skills in Python
- Knowledge of digital image processing and medical imaging is mandatory
- Experience with neuroimaging data (and with neuroimage analysis software, e.g. Nipype, SPM, Freesurfer) would be a strong plus
- Good understanding of the software development process and tools (Git, continuous integration, tests)
- Excellent planning and organizational skills
- Good writing skills (documentation, website, scientific articles)
- Good relational and communication skills to interact with users and lab members

Salary: depending on experience

Type of contract: fixed-term contract

Ready to take up the challenge?

Send your CV to olivier.colliot@sorbonne-universite.fr and to ninon.burgos@icm-institute.org.