Data Engineer (brainchild neuroimaging, clinical, and OMICs data)

Localization: IHU-ICE Hôpital Robert Debré, Paris, France. NeuroSpin, CEA, Université Paris-Saclay, France
Position type: CDD.
Employer: CEA.
Start date: 2025
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Summary

NeuroSpin is in charge of data management and analysis at the "Institut Hospitalo-Universitaire Robert Debré du Cerveau de l'Enfant" (IHU-ICE). NeuroSpin will operate the data processing and analysis chain, from quality control to statistical analysis and machine learning (AI). The data covers a wide spectrum of modalities, from brain phenotyping by MRI (anatomical, diffusion, and functional) or EEG to OMICs data (genetic, expression, and epigenetic) and clinical data.

These projects are based on the future N4HCloud digital platform (health data warehouse), designed to leverage the data and analysis tools produced by CEA/"Direction de la Recherche Fondamentale" (DRF) platforms (NeuroSpin, CNRGH, MetaboHUB-IDF, IRIG).

From the perspective of the IHU-ICE project, NeuroSpin is looking to recruit an engineer to **manage and operate multimodal data** on the future N4HCloud digital platform.

NeuroSpin is France's leading research center for innovation in brain imaging. NeuroSpin is part of the "Direction de la Recherche Fondamentale" (DRF) of the Commissariat à l'énergie atomique (CEA Saclay), which is a member of the Université Paris-Saclay, the top French university in the Shanghai ranking of academic organizations (15e worldwide).

Missions

1. **Managing the IHU-ICE data flow.** Under the supervision of NeuroSpin engineers and researchers, the engineer will help set up the data flow to the digital platform. Then, they will set up procedures and tools to guarantee data integrity.
2. **Operate data integration** within the IHU Health Data Warehouse (EDS-IHU-ICE). This will involve monitoring, ordering, and guaranteeing integrity of data entered into the IHU EDS.
3. **Operate the exploitation of IHU EDS data** by users (researchers):

a. Administration of user accounts.
b. Provision of data required for studies.
c. User support.
d. Use of HPC (High-Performance Computing) resources.
e. Use of storage resources
4. **Operating the interface between the various information systems** (AP-HP, Pasteur, and CEA). This interface implies a strong technical and human dimension.
5. **Technological monitoring of IT tools** (database systems, etc.) and services (interoperability mechanisms between databases).

Candidate profile

- Engineer or M2 in computer science or data processing (imaging, signal, bioinformatics).
- Python programming language.
- Mastery of UNIX/Linux systems.
- Knowledge of networks.
- Experience(s) in IT infrastructure: databases, Cloud, HPC.
- Knowledge of the following technologies would be a plus: Git, agile methods, and continuous integration.
- English: B2 to C1 level.
- Project management, formalization of requirements, organizational skills and ability to summarize.
- Programming in different IT environments.
- Enthusiasm and motivation are required for the field of application to child neuropsychiatric and/or neuroscience.