Software engineer in scientific computing

Jacques-Louis Lions Laboratory, UMR7598
Sorbonne Université, Paris

We are offering a position as a scientific computing engineer on a fixed-term contract as part of the research project *Morphometry under constraints for the analysis of biological data : a new tool for the scientific community* supported by the grant Emergence(s) from the City of Paris. The objective of this project is to develop the Python library IMODAL (https://github.com/imodal). This framework aims to analyze medical or biological data by matching them using large deformations satisfying given bio-physical constraints.
Your mission will be to ensure the development and optimization of IMODAL. You will have to manage the integration of new functionalities, improve the existing implementation and also use IMODAL to analyze various databases.

Activities

- Implement methods of mathematical analysis and intensive computing to meet a research need and exploit data from experiments or observations
- Install scientific computing tools and software on computing resources
- Advise researchers on the choice of software and mathematical methods to use depending on the problem to be addressed and the architecture of the computing resources used
- Optimize calculation codes for new architectures
- Manage the life cycle of data input and output calculations
- Provide documentation, maintenance and publication of methods and tools developed

Skills

We are looking for a candidate with an engineering degree or equivalent with the following skills:

- Mastering the Python programming language
- Knowledge of tools and techniques for scientific calculus
- General knowledge of high performance computing
- General knowledge in mathematics
- Comprehension and written expression of English

Context

You will work under the scientific direction of Barbara Gris, Jacques-Louis Lions laboratory on the site Pierre and Marie Curie, 4 place Jussieu. The Jacques-Louis Lions Laboratory, UMR7598, created in 1969, is a joint research unit between Sorbonne University, Paris Diderot University and the National Center for Scientific Research (CNRS). It also has close ties with Inria and Carnot Smiles. Its researches focus on the analysis, modeling and high-performance scientific computing of phenomena represented by partial differential equations.

The position is a 2-year fixed-term contract, from February 1, 2023. The remuneration follows the Sorbonne Universite salary scales and depends on the experience of the recruited person.

For more information and to apply: contact Barbara Gris *barbara.gris@sorbonne-universite.fr* (join your CV).
Application deadline : 25/11/2022.