Software engineer

Would you like to contribute to the advancement of research in cardiac magnetic resonance imaging?

Join the Liryc at the University of Bordeaux!
This institute near Bordeaux, France, has been at the forefront of ablation therapy. It is hoping to reduce recurrence of atrial fibrillation using personalized atrial electrophysiological models.

The SMHEART project, funded by an ERC, wants to build a new MRI that would collect 3D images in one click, breathing freely for the patient and on a much shorter exam time than the current one. Artificial intelligence would make it possible to efficiently extract data for a fully automated diagnosis that would ultimately allow a shorter examination and therefore more pleasant for the patient. This could also have an impact on wait times.
An ultimate goal of this project is obviously to improve diagnosis. This SMHEART project received 1.5 million euros for 5 years and will allow the recruitment of 10 people for a global study on a set of 200 volunteer patients representing different groups of pathologies.

In this context, we are looking for a **Software engineer**.

Main activities:

The unique ability of CMR to manipulate contrast and morphological information is however challenged by long scan times and physiological motion artefacts.
To address this challenge, a team of image reconstruction specialists has developed efficient algorithms in a hybrid code combing C++ and Matlab.

Your role will be critical in translating existing Matlab code into C++ and improving the already functional C++ code used in the MRI reconstruction environment. Since the existing reconstruction is already functional, the objectives are well-defined.

As such:
- You contribute enhancing the speed of this codebase by translating specific sections of the program into C++ and implementing parallelization techniques using OpenMP and MPI in conjunction with our on-site image reconstruction specialists
- You re-implement precise sections of the program to overcome the identified difficulty
- You participate in the dissemination and exploitation of results

Your skills / assets:

Holder of a Master's degree, engineering degree or a PhD in software development, you know how to program in C++ Python and Matlab and know how to compile the code by relying on the existing.

- You have proven skills in installing and using dynamically linked external libraries, ideally you are familiar with the ONNX library
- You are proficient or have a strong desire to learn parallelization techniques such as OpenMP and MPI
- You are curious, enjoy exploring, share your knowledge with trainees and colleagues
- Team oriented and passionate about scientific research
- Fluency in English (oral and written, in a scientific context)

Your future colleagues are open-minded and have affinities with art, culture, sport. Are you planning? Apply now!

More info:

By joining the LIRYC IHU Diagnostic Imaging team, you will work in a translational, multidisciplinary, collaborative and international environment.
This position offers you a unique opportunity to contribute to cutting-edge research in cardiac magnetic resonance imaging.

It is located in Pessac (8 Km from Bordeaux, 60Km from the Atlantic coast) on the site of the Xavier Arnozan Hospital, near the Haut Lévêque Cardiology Hospital where the clinical teams involved in the research themes of the Institute work. The building is modern and in the surrounded by a wooded park.

Based in Pessac – tramway line B (stop « France Alouette ») buses, bike, in a wooded campus nearby the Xavier Arnozan hospital.

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12-months fixed-term contract (extension pobbile)

Gross salary: from 2290€ to 2500€ per month according to the University grid and your experience

Job Benefits:
50 days of vacation from the first year of collaboration

Remote working possible according to needs and organization of the service
Refill of 50% of the subscription to the public transport
Participation in the private healthcare up to 15€ / month
Leisure, sport and culture for all staff
Disabled-friendly establishment
Possibility of staff parking
Sustainable mobility package for commuting – work

Recruitment process: Applications are reviewed as they arrive.
Candidates selected for an interview will be reached by the Recruitment Officer an interview with the supervisor of this project.

Tip: your cover letter is read and brings us complementary elements to your CV!

Link to job offer:

E-mail adress to apply : job-ref-uar7flg3qb@emploi.beetween.com

Agreement ERC n°10107635