

Postdoc

Ecole/Institution/Société:

Aix-Marseille University, France / Marseille

Discipline:

Machine Learning

Type d'emploi::

Full-time

Date de publication:

2021-03-06

Personne à contacter:

If you wish to apply for this position, please specify that you saw it on AKATECH.tech

Postdoc in Machine Learning for Structure-based Virtual Screening

Job Description

FUNDED BY ANR

SUPERVISED BY Dr. Pedro Ballester

SALARY up to € 2,900 gross monthly (depending on experience)

Working environment

The Cancer Research Center of Marseille (CRCM) is the basic science and translational research unit of the private cancer hospital Institut Paoli Calmettes (IPC). The CRCM is also affiliated to INSERM, CNRS and Aix-Marseille University. The 400+ researchers working at the CRCM form a strongly multi-disciplinary research environment (<https://www.crcm-marseille.fr/>).

Project

The application of Machine Learning (ML) to structure - based virtual screening has tremendous potential, but it is still in its infancy. A project aiming at exploring the limits of what is possible in this research topic has recently been funded by the ANR. The project is led by Dr Ballester at the CRCM, with three collaborating groups at Toulouse (France), Cambridge (UK) and East Lansing (USA). These are some relevant papers from this consortium:

- <https://doi.org/10.1002/wcms.1478>
- <https://doi.org/10.1093/bib/bbaa095>
- <https://pubs.rsc.org/en/content/articlelanding/2020/SC/D0SC04641H>
- <https://www.nature.com/articles/s42256-020-0149-6>
- <https://science.sciencemag.org/content/343/6178/1445>
- <https://www.nature.com/articles/s41467-017-01948-9>
- <https://stke.sciencemag.org/content/7/352/ra109>
- <https://www.nature.com/articles/nature07763>

Selection criteria - Essential

- A PhD awarded in an area directly relevant to the project.

- Expertise in the application of machine learning algorithms to scientific problems.
- An excellent first and / or master degree, including their research projects, with a major focus on computational analysis of experimental data.
- Skilled in the implementation of R or Python scripts for scientific data analysis.
- Ability to communicate effectively in English, both orally and in writing.
- First-author publications in international journals.

Selection criteria - Desirable

- Previous training / research on molecular modeling, especially docking techniques, drug discovery informatics and / or structural bioinformatics.
- Research projects in the application of supervised learning to solve real-world problems in the context of biomedical research, especially virtual screening.
- Prior use of high-performance computing to train machine learning algorithms.
- Comfortable working in linux platforms.

What we offer

The successful candidate will receive a gross monthly salary of up to € 2,900 gross monthly (depending on experience) for 1 year (renewable for up to 3 years).

This is an exciting opportunity for a bright and motivating scientist to work on a timely and exciting data science problem of therapeutic importance. Selected predictions made by the developed methods will be evaluated in vitro by our collaborators, thus the postdoc will be part of the resulting patents.

The postdoc will join the Ballester team at the CRCM, which provides an international and stimulating research environment. The team is composed by 1 postdoc and 7 PhD students, working on the application of ML to drug design and precision oncology problems.

In terms of quality of life, the CRCM is located in Marseille, thus the student will enjoy living in an exciting multi-cultural city right by the French Mediterranean coast (<https://www.marseille.fr/decouvrir-marseille/>).

How to apply

Candidates must send an email with their CV, grades for each held university degree and a covering letter (maximum two pages) to pedro.ballester@inserm.fr with subject line "Postdoc in ML for SBVS".

This letter must explain how they meet the essential selection criteria, which desirable selection criteria are also met and how this position would fit in their future career plans. This email must also state the names and emails of three scientists involved in assessing their academic performance, who are willing to provide a reference. Please also mention in the letter where did you see this position advertised.

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