



PROCEDIMENT DE SELECCIÓ DE PERSONAL INVESTIGADOR POSTDOCTORAL CONTRACTAT A CÀRREC DE FINANÇAMENT FINALISTA O A CÀRREC DE FINANÇAMENT DE POLÍTIQUES DE LA UNIVERSITAT DE BARCELONA (PROCEDIMENT SIMPLIFICAT)

Euraxess – Job offer

Mandatory (obligatori)* Optional (opcional)

Project information

Acronym*	DataTools4Heart (DT4H)
Project title*	"A European Health Data Toolbox for Enhancing Cardiology Data Interoperability, Reusability and Privacy"
IP*	Dr. Karim Lekadir
Department*	Faculty of Mathematics and Computer Science, BCN-AIM Lab

Basic information

Job description

Title*	Postdoctoral position for novel federated learning approaches and models for diagnostic pathway support and risk score prediction in cardiology using real-world data - DATATOOLS4HEART Ref. N° GA 101057849
Offer description* <i>Project description, responsibilities, functions and/or tasks of the position, etc.</i>	We are offering at the University of Barcelona, within the Artificial Intelligence in Medicine lab (www.bcn-aim.org), to develop new trustworthy AI solutions for personalised medicine approach to tailor the care models in the field of cardiovascular diseases. Concretely, we offer: <ul style="list-style-type: none"> - A research position in beautiful Barcelona and its Mediterranean climate. - Research experience within a prestigious university (1st position in Spain). - Cutting-edge research in AI for healthcare in one of the most dynamic research groups in Europe (12 active projects including an ERC grant). - An international research environment by joining a multi-cultural team representing all continents. - Opportunities to collaborate with international and inter-disciplinary collaborators as part of the European projects. - Support in career development (e.g. grant applications, supervision of PhD students). - Travelling opportunities to scientific events, project meetings and international stays. - Freedom to independently conduct research and contribute with own ideas. - Flexible working hours, with possibility to telework. - Competitive salary equivalent to Assistant or Associate Professor at the University of Barcelona, depending on experience. - Contract duration until the end of the projects, with the possibility to extend the contract as part of other grants within the lab.



The requirements for the position are:

- PhD degree in an area pertinent to the project, such as applied mathematics, statistics, machine learning, data science, medical imaging, and/or biomedical informatics
- Federated learning
- Machine/deep learning
- Medical image analysis
- Multi-source data integration
- Interpretability and visualisation
- Uncertainty estimation
- Excellent programming skills in Python and/or C++, Matlab
- Excellent English, both oral and written
- Enthusiasm about research and medical applications of AI.
- Aptitude to work independently, lead project deliverables and meet deadlines.
- Good team spirit and participation to the lab's scientific life.
- Aptitude to collaborate with local and international project partners (including technical and clinical collaborators).

Even if you do not meet all the requirements listed, we still encourage you to apply as we believe in considering diverse experiences and perspectives. We are also committed to fostering gender diversity within our organization.

The research project: You will join our AI for cardiology team, as part of ongoing projects such as DataTools4Heart (<https://www.datatools4heart.eu/>) and AI4HF, funded by the European Commission and some coordinated by our lab. In these projects, we are developing new trustworthy AI solutions for personalised medicine approach to tailor the care models in the field of cardiovascular diseases. In particular, we are interested in new AI solutions for risk assessment and patient management. The project will build on a unique set of big data repositories, real-world hospital data, trustworthy AI methods, computational tools and clinical results from major EU-funded projects in cardiology leveraging federated learning. Should you join our team, you will collaborate with several technical and clinical partners within and outside Europe (e.g. in the Netherlands, United Kingdom, Greece, Spain, Belgium, France, Germany, Portugal, Peru, Tanzania, Czechia, Turkey).

The group:

The successful candidate will join the Artificial Intelligence in Medicine Lab (www.bcn-aim.org), which is an integral part of the University of Barcelona's Faculty of Mathematics and Computer Science. It is a young and dynamic research lab, highly active in international projects, and composed of >25 enthusiastic academics, researchers, students and research managers, with expertise in data science, machine/deep learning, biomedical informatics, trustworthy AI, and health-related applications. The research group has an established track record in coordination and participation in European and international projects (> 10 million Euros over the last 5 years) in biomedical data science and medical AI (e.g. EuCanImage, euCanSHare, EarlyCause, LongITools, HealthyCloud, RadioVal, DataTools4Heart, Youth-GEMs, HappyMums, AIMIX, AI4HF).

The institution:

The University of Barcelona (UB), founded in 1450, is one of the oldest universities in Spain. It comprises a student body of 84,370 and 4,548 research staff members. With 73 undergraduate programs, 273 graduate programs and 48 doctorate programs, UB is the largest university in Barcelona and Catalonia. The UB is ranked



	the first Spanish university according to several rankings (QS World University Rankings 2022, Shanghai Ranking 2022). It is particularly interested in fostering international relations and, for many years, has managed an average of 150 European projects per year. The University of Barcelona is part of the prestigious League of European Universities Research (LERU).			
Researcher Profile*	<input checked="" type="checkbox"/>	Recognised Researcher <i>(PhD holder or equivalent, experience more than 4 years, not fully independent)</i>		
Research field* <i>Select one</i>	<input type="checkbox"/>	Agricultural sciences	<input type="checkbox"/>	Educational sciences
	<input type="checkbox"/>	Anthropology	<input type="checkbox"/>	Engineering
	<input type="checkbox"/>	Architecture	<input type="checkbox"/>	Environmental sciences
	<input type="checkbox"/>	Arts	<input type="checkbox"/>	Ethics in health sciences
	<input type="checkbox"/>	Astronomy	<input type="checkbox"/>	Ethics in natural sciences
	<input type="checkbox"/>	Biological sciences	<input type="checkbox"/>	Ethics in physical sciences
	<input type="checkbox"/>	Chemistry	<input type="checkbox"/>	Geography
	<input type="checkbox"/>	Communication sciences	<input type="checkbox"/>	Geosciences
	<input checked="" type="checkbox"/>	Computer science	<input type="checkbox"/>	History
	<input type="checkbox"/>	Criminology	<input type="checkbox"/>	Information science
	<input type="checkbox"/>	Cultural science	<input type="checkbox"/>	Juridical sciences
	<input type="checkbox"/>	Demography	<input type="checkbox"/>	Language sciences
	<input type="checkbox"/>	Economics	<input checked="" type="checkbox"/>	Other

Gross salary per year*	40.000 €
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How to apply

Required documents*	Application form (annex 3), Curriculum vitae, motivation letter, etc.	
Send your application to:	Email/website*	Instancia genérica (ub.edu)
	Name	
	email subject*	DT4H N° GA 101057849 - Postdoctoral position

Working conditions

Type of contract*	Temporary			Hours per week*	37,5h
Job status* <i>Select one</i>	<input checked="" type="checkbox"/>	full-time	<input type="checkbox"/>	part-time	
Application deadline*	01/08/2024			Job Starting Date*	23/09/2024

Funding

Is the job funded through a EU Research Framework Programme?* <i>Select one</i>	<input type="checkbox"/>	HE / Marie Skłodowska-Curie Actions COFUND	H2020 / Marie Skłodowska-Curie Actions COFUND
	<input type="checkbox"/>	HE / Marie Skłodowska-Curie Actions	H2020 / Marie Skłodowska-Curie Actions
	<input type="checkbox"/>	HE/ ERC	H2020 / ERC
	<input type="checkbox"/>	HE / EIT	H2020 / EIT
	<input checked="" type="checkbox"/>	HE	H2020



If not, indicate the fund program and organization*	
Science4Refugees*	

Hiring Organisation

Contact Person:	Name	Paloma Fernández Torres
	email	Paloma.fernandez@ub.edu
	Phone	
	Mobile phone	

Work location

Department/Centre*	Departament de Matemàtiques i Informàtica, Universitat de Barcelona		
City*	Barcelona		
Street	Gran Via de les Corts	Postal Code	08007
	Catalanes, 585		

Requirements

Required Education Level* <i>Select one</i>	<input checked="" type="checkbox"/> PhD or equivalent	
Skills/Qualifications	<ul style="list-style-type: none"> - PhD degree in an area pertinent to the project, such as applied mathematics, statistics, machine learning, data science, medical imaging, and/or biomedical informatics - Federated learning - Machine/deep learning - Medical image analysis - Multi-source data integration - Interpretability and visualisation - Uncertainty estimation - Excellent programming skills in Python and/or C++, Matlab - Excellent English, both oral and written 	
Specific requirements	<ul style="list-style-type: none"> - Good team spirit and participation to the scientific life of the lab - Ability to lead project deliverables, conduct meetings, meet deadlines, and represent the lab at an international level - Proactiveness and leadership - Aptitude to collaborate with both technical and clinical collaborators - Passion for applications of artificial intelligence to biomedicine - High motivated for research 	
Required languages	Language	Level
	English	<i>Basic/Good/Excellent/Mother tongue</i> Excellent

Additional information

Website/s for additional job details*	
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Selection process

Eligibility criteria*	<ul style="list-style-type: none">- PhD in computer science, data science, mathematics, applied mathematics, physics, statistics, biomedical informatics, computer vision, medical image computing, biomedical engineering, or equivalent. - A publication record in relevant peer-reviewed journals and/or conferences. • Adequacy of the CV (maximum 60)<ul style="list-style-type: none">- Specialised doctorate (40), generic doctorate (20) • Letter of motivation (max. 10)• Experience in the field (max. 30) <p>Minimum score to pass the selection process: 60/100 points.</p>
Selection process	<ul style="list-style-type: none">- First selection based on CV and letter.- Interviews by a panel composed of Karim Lekadir, team members and Academics from the University of Barcelona.

Additional comments*

Duration of the contract of employment: 12 months, renewable up to 30/09/2026 (end of the project).

The candidate proposed for hiring must accept the job offer within **5 working days** from the date of notification of the selection.

Priority will be given to people with disabilities (Law 89/2015 of June 2, reserve of quota 2% in favour of people with disabilities in companies of 50 or more people).

Be aware that the starting date sets in this offer is an estimate date. The official starting date will depend on the bureaucratic time that will take the preparation of the labour contract and presentation of the necessary documents to be hired by the selected candidate.

For additional information regards this offer, please, contact: Paloma.fernandez@ub.edu