

Senior Machine Learning Researcher

Job Offer

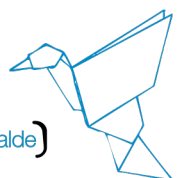
Topics:

The Basque Center for Applied Mathematics - BCAM, is looking for a Senior Researcher to join the Machine Learning (ML) group, and work under the supervision of Dr. Novi Quadrianto.

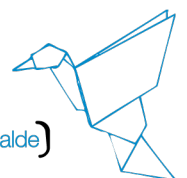
We are offering a unique opportunity for a motivated individual to join the Basque Center for Applied Mathematics (BCAM) as a Research Fellow. You will join a team of machine learning researchers developing and utilising statistical matching techniques for mitigating and auditing bias in Artificial Intelligence (AI) models.

You will take a substantive role in developing a tool which can be easily integrated into any AI workflow, in a plug and play fashion, to continuously monitor and improve its fairness. A key aspect of the tool is the ability to operate with different types of data (tabular, images, and text) in a variety of contexts (binary and multiclass classification and regression). It is also able to match datasets in different domains including out-of-distribution data even if these datasets have different numbers of variables or features.

Artificial Intelligence (AI) holds tremendous potential to enhance human decisions and to avoid cognitive overload and bias in high-stakes scenarios. To date, however, adoption of AI-based support systems has been minimal in settings such as hospitals, tribunals and public administrations. TANGO argues that in order for AI to fully develop its enormous potential in terms of positive impact on individuals, society and economy, we need to completely rethink the way in which AI systems are conceived. People should feel they can trust the systems they interact with, in terms of reliability of their predictions and decisions, capacity of the systems to understand their needs, and guarantees that they are genuinely aiming at supporting them rather than some undisclosed third party. In other words, a symbiosis should be established between humans and machines, in which all parties are aligned in terms of values, goals and beliefs, and support and complement each other so as to reach objectives beyond what each would be able to do by itself. The potential impact on individuals and society of the TANGO framework will be evaluated on a pool of real-world use cases of extremely high social impact, namely supporting women during pregnancy and postpartum, supporting surgical teams in intraoperative decision making, supporting loan



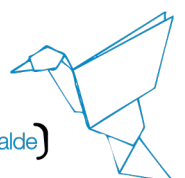
	<p>officers and applicants in credit lending decision processes, and helping public policy makers in designing incentives and allocating funds. The success of these case studies will foster the adoption of TANGO as the framework of reference for developing a new generation of synergistic AI systems and will strengthen the leadership of Europe in human-centric AI. Partnership - Among the 21 partner organisations there are universities, research centres, institutions, foundations and companies from 9 European countries. 7 are from Italy (the University of Trento, which is also the coordinator of the network, and the University of Pisa, the National Research Council, Scuola Normale Superiore, Fondazione Bruno Kessler, U- Hopper srl, Intesa Sanpaolo), 4 from Serbia (the AI Research and Development Institute, SHARE Foundation, the A11 - Initiative for Economic and Social Rights, the Ministry of Family Welfare and Demography), 2 from the United Kingdom (Swansea University, the University of Warwick), 2 from Belgium (the Center for European Policy Studies, EIT Digital), 2 for Germany (University Hospital Heidelberg, TU Darmstadt) and one each from France (Université Paris Cité), Ireland (Carr Communications), Sweden (Surgical Science Sweden AB) and Spain (Basque Center for Applied Mathematics). For further information: https://tango-horizon.eu/</p> <p>If you are a passionate about Artificial Intelligence, and eager to embark on a research career at BCAM, this opportunity is for you. Apply now and become part of our dedicated team at BCAM.</p>
<p>PI in charge:</p>	<p>Novi Quadrianto</p>
<p>Salary and conditions:</p>	<p>The gross annual salary of the Fellowship will be 40.119€ - 43.919€ according to experience.</p> <p>It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency. Additionally, we offer a moving allowance up to 4.000€.</p> <p>Should the researcher have a family at the time of recruitment:</p> <ol style="list-style-type: none"> 1. 3.000€ gross in a single payment will be offered (you must be married-official register or with children and the certificate to prove it must be sent). 2. 1.200€ gross per year/per child (up to 2 children) will be offered (the certificate to prove it must be sent).



Contract and offer:	1+1 year
Deadline:	31/03/2025 14:00 CET
How to apply:	Applications must be submitted on-line at: https://joboffers.bcamath.org/

Scientific Profile Requested	
Requirements:	<ul style="list-style-type: none"> • Promising young researchers. • Applicants must have their PhD completed (or near completion) before the contract starts. • PhD degree preferable in Machine Learning, Computer Science, Statistics, Mathematics or related fields or equivalent experience and/or qualifications.
Skills and track-record:	<ul style="list-style-type: none"> • Good interpersonal skills. • Demonstrated ML expertise, in researching, training, deploying, and optimising ML techniques, desirably, this includes LLMs. • The ability to work independently, with a high degree of self-motivation, including the organisational skills to manage projects. • Fluency in spoken and written English.
Scientific Profile:	<p>The preferred candidate will have:</p> <ul style="list-style-type: none"> • Knowledge in algorithmic bias and fairness, optimal transport, statistical matching is desired. • Strong programming skills, with proficiency in Rust, Python, PyTorch. • Experience using software engineering tools and processes including version control, agile tooling (e.g. Jira, GitHub Projects), code reviews and pull requests. Knowledge in epidemiology is desired. • Interest and disposition to work in interdisciplinary groups.

Application and Selection Process	
Formal Requirements:	<p>The selected candidate must have applied before the application deadline online at the webpage. https://joboffers.bcamath.org/</p>



	The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile. Additional documents could be requested during the evaluation process so as to check this fulfilment.
Application:	<p>Required documents:</p> <ul style="list-style-type: none"> ▪ CV ▪ Letter of interest ▪ 2 recommendation letters ▪ Statement of past and proposed future research (2-3 pages)
Evaluation:	Based on the provided application documents of each candidate, the evaluation committee will evaluate qualitatively: the adaption of the previous training and career to the profile offered, the recommendation letters, the main results achieved (papers, proceedings, etc.), the statement of past and proposed future research and other merits; taking in account the alignment of these items to the topic offered.

Incorporation:	30th April 2025
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