FULL-TIME ACADEMIC POSITION IN ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND AUTONOMOUS ROBOTICS

BRUSSELS SCHOOL OF ENGINEERING (ÉCOLE POLYTECHNIQUE DE BRUXELLES)

Reference : 2027/A014
Application deadline: 04/01/2027 12:00 PM
Start date: 01/10/2027

Job description

The Brussels School of Engineering (École polytechnique de Bruxelles) of the Université libre de Bruxelles (ULB) invites applications for a full-time academic position in artificial intelligence, machine learning and autonomous robotics. The successful candidate will teach in the Bachelor and Master programmes in engineering and will conduct research at IRIDIA, the artificial intelligence laboratory of ULB. The position is open to researchers holding a PhD in engineering, computer science or a related field, whose research focuses on machine learning in distributed robotic systems, ideally robot swarms.

Area of Research : *machine learning in distributed robotic systems (multi-robot systems, swarm robotics)*

The position focuses on machine learning in distributed robotic systems: groups of robots that perceive their environment, coordinate and act autonomously in the physical world, with swarm robotics as the preferred context. Relevant topics include, but are not limited to, deep learning and reinforcement learning (including multi-agent reinforcement learning) for the control of robot groups, the automatic design of collective behaviours, learning with local information and limited communication, the transfer of learned control software from simulation to reality, and methods to analyse and verify the behaviour of learning multi-robot systems.

IRIDIA has been active in artificial intelligence for about forty years. Among other contributions, the laboratory originated ant colony optimization and has done pioneering work in swarm robotics, automatic algorithm configuration and the automatic design of collective behaviours. It has coordinated several European projects, including two ERC grants. The successful candidate will have access to a substantial experimental infrastructure: several swarms of robots of different models, an arena equipped with a camera-based tracking system, a mechanical and electronics workshop, and a high-performance computing cluster.

Collaborations are expected within the School (control engineering, mechatronics, image analysis, cybersecurity), with the Machine Learning Group of the Faculty of Sciences, with VUB in the framework of the Brussels Faculty of Engineering (BruFacE), notably BruBotics and the VUB AI Lab, and with FARI – AI for the Common Good Institute.

The position calls for a specialist in machine learning for distributed robotic systems. Swarm robotics, a field in which IRIDIA has an internationally recognised position, is the preferred application context.

Educational and scientific goals : The successful candidate will strengthen the teaching of artificial intelligence in the engineering curriculum: in the Master in Computer Science and Engineering, in particular in the Computational Intelligence and Optimization option, and in the Bachelor programme. In particular, they are expected to make a major contribution to the Computational Intelligence and Optimization option, which needs to be strengthened, notably in deep learning and reinforcement learning, with particular attention to their application to cyber-physical systems. They will also contribute to the basic programming education of engineering students. Teaching is expected to keep pace with a fast-moving field and to address the ethical, legal and environmental implications of autonomous systems.

The successful candidate will supervise Master theses, student projects and doctoral theses.

On the research side, the successful candidate is expected to develop an independent research line within IRIDIA, in close collaboration with the other members of the laboratory and within the Mobile Robotics platform that IRIDIA shares with the Control Engineering and System Analysis department (SAAS). They are expected to publish in leading journals and conferences, attract competitive academic funding (national and European) as well as industrial collaborations, build collaborations within and beyond ULB, and contribute to the international visibility of the laboratory.

Courses covered at the time of recruitment : The teaching load will typically include three to four courses, to be agreed with the Faculty. Possible courses include:

- INFO-H410 Techniques of artificial intelligence (Master, taught in English);
- INFO-H512 Current trends in artificial intelligence (Master, taught in English);
- a new Master course strengthening the Computational Intelligence and Optimization option, for instance on deep learning, reinforcement learning or artificial intelligence for autonomous robotics;
- INFO-H100 Informatique (Bachelor, taught in French), which may integrate an introduction to artificial intelligence and robotics through hands-on projects;
- INFO-H2001 Programmation orientée objet (Bachelor, taught in French);
- a new introductory course on artificial intelligence at Bachelor level.

Master courses are taught in English; Bachelor courses are taught in French.

Qualifications required :

PhD Degree (with doctoral thesis) in Engineering, Computer Science or a related field, with proven expertise in artificial intelligence and robotics.

Skills required

- Applicants should have at least 4 years of research experience at the time of their recruitment.
- Applicants should have a strong research record in machine learning applied to multi-robot or, more generally, distributed robotic systems, demonstrated by publications in leading journals and conferences.
- Applicants should have teaching experience in computer science or artificial intelligence and be able to teach programming (Python and C++).
- Applicants must have an excellent command of French (C1 level at least), as part of the teaching is in French.
- Applicants must have an excellent command of English (C1 level at least).
- Applicants should have excellent communication skills, in French and in English, and be willing to contribute to the institutional life of the Faculty and to the dissemination of research to the general public and the media.

Strongly desired:

- proven experience in swarm robotics.

Assets:

- post-doctoral experience and an excellent scientific record;
- exchange periods outside of the applicants' home institution (during or after their PhD);
- experience in the experimental validation of methods on real robots;
- a track record in obtaining academic or industrial research funding;
- the production of free and open-source software shared on public repositories.

Interested ?

For more information, please contact Prof. Mauro Birattari (E-mail: mauro.birattari@ulb.be). For information about the gender equality policy of the Faculty, please contact Prof. Alessia Cuccurullo (E-mail: alessia.cuccurullo@ulb.be).

Your application will consist of a Curriculum Vitae*(if you wish, a standard CV can be downloaded from the website: https:* //www.ulb.be/fr/documents-officiels/emplois-academiques-et-scientifiques-cv-type) and a document completed using the template available at this URL address https://www.ulb.be/fr/documents-officiels/1e-applic-form-acad-tps-plein-docx.

This template structures your application by including the following elements:

- an application letter
- a 7,000-character report (4 pages) presenting the applicant's research activities and a research project, including how these will integrate into ULB's research teams
- a teaching dossier including a 7,000-character report (4 pages) on the applicant's previous teaching activities and a teaching project for the first five years in this position; these must be relevant to the faculty and to the teaching profiles for the programmes to which the applicant is to contribute
- a note on the applicant's international achievements and projects (no more than 4 pages)
- the names and e-mail addresses of five referees (respecting the gender balance) who may be contacted by those in charge of evaluating applications. These referees should not have conflicts of interest because of family or emotional ties.
- the shortlisted candidates will be invited to an interview conducted in English and in French. They will be asked to give a short lecture on a prescribed topic in the field of the position, to assess their teaching skills. Part of the interview will be conducted in French to assess their command of the language.

Incomplete applications or applications that do not use the template provided will not be examined by the selection committee.

The appointment to the academic staff of ULB is made at "Chargé de Cours" level. As of their appointment, members of academic staff are authorised to use the honorary title of "Professeur".

Where to go to apply?

Click here: https://jobs.ulb.be/job-invite/2085/?isInternalUser=true

For any connection problems or questions about our application, consult our FAQ : e-recrut-mode-d-emploi-candidat-en-_1734942996246-pdf

N.B.: SAP complies with European and U.S. regulations and, as a result, does not allow access to its application from the following countries/regions: Crimea, Sevastopol, the Donetsk People's Republic (DNR) / Luhansk People's Republic (LNR), areas not controlled by the Ukrainian government in the Kherson and Zaporizhzhia regions, Cuba, Iran, North Korea, Syria, Russia, and Belarus.

Therefore, candidates applying from these countries – and only from these countries – can submit their CV and application to this address: rectrice@ulb.be

Equal opportunities policy

As part of its EGRAS initiative (*Gender Equality in Academic Recruitment in STEM*), the ULB is committed to promoting gender equality in academic recruitment and therefore particularly encourages women to apply.

ULB's personnel management policy is geared towards diversity and equal opportunities.

We recruit candidates on the basis of their skills, irrespective of age, gender, sexual orientation, origin, nationality, beliefs, disability, etc.

Would you like to be provided with reasonable accommodation in the selection procedure because of a disability, disorder, or illness? Please contact Marie Botty, the person in charge of diversity aspects for the academic and scientific staff (marie.botty@ulb.be). Be assured of the confidentiality of this information.

More details on the ULB gender and diversity policy are available at Diversity at ULB - ULB.

You will find all the regulations relating to academic careers on our site at http://www.ulb.ac.be/emploi/academique.html.

EURAXESS SPECIFIC INFORMATION

Main Research Field : Computer science

Sub Research Field : Artificial intelligence

Required educational level: PhD Degree in Engineering, Computer science

Required Languages :

Français : excellent

English : excellent

Type of contract : temporary

Hours per week : 38

Required Research Experiences : Computer science – 4 years

Researcher profile : Experienced researcher - R3 (4 – 10 years)

Additional requirements : Proven expertise in machine learning (deep learning, reinforcement learning) applied to multi-robot or distributed robotic systems; experience in swarm robotics strongly desired. Ability to teach programming (Python and C++). French and English at C1 level at least.

FICHE ADMINISTRATIVE

qui doit impérativement accompagner la vacance

n° de vacance : 2027/A014

Domaine : Sciences de l'ingénieur

Discipline : Informatique

Poste(s) au cadre : remplacement H. Bersini] (1.00 ETP) :

C-ORD-015 (0.70 ETP) + B-CCO-053 (0.05 ETP) + B-CCO-077 (0.10 ETP) + B-CCO-138 (0.05 ETP) + C-CCO-241 (0.10 ETP)

Poste SAP : 41464310

Références CoA : 23/11/26

Rattachement Enseignement : HD040 – Département Computer & Decision Engineering (CoDE)

Rattachement Recherche : HD013 – IRIDIA, laboratoire d'intelligence artificielle