PRE-DOCTORAL POSITION ON *CONTEXT-AWARE DATA ENGINEERING* (F/M/X)

AREA: COMPUTER SCIENCE

START DATE: 2024-04-01 (NEGOTIABLE) | DEADLINE: 2024-01-31

The University of Liège is the biggest French-speaking public university in Belgium. In employs more than 5,700 staff members across four campuses, including 3,600 active teachers and researchers in all fields of the human and social sciences, science and technology, and health sciences. In hosts nearly 27,000 students of 123 different nationalities in one of the most multicultural and dynamic cities in Europe, less than an hour from Brussels and Cologne, two hours from Paris, and three hours from London and Amsterdam.

Actively involved in the social and environmental transition, ULiège supports students to fulfil their roles as responsible citizens (training in sustainable development, Green Office, etc.) and promotes ethical, multidisciplinary and open research. ULiège is committed to the region in which it operates and contributes towards local socio-economic development. It has developed numerous partnerships, notably with the university hospital. International and united, it participates in the European University of Post-Industrial Cities, UNIC initiative and has one of the most extensive collaborative networks in the world.

ULiège offers attractive career prospects in a high-quality working environment, promoting well-being, diversity and equality of opportunity. Since 2011, ULiège has been proud to display the European *Human resources strategy for researchers* (HRS4R) label, which reflects its commitment to open, transparent and merit-based procedures. In addition, it recognises the quality and diversity of research in line with the recommendations of the *Coalition for Advancing Research Assessment* (CoARA). ULiège encourages its academic staff to travel internationally and welcomes international researchers through its EURAXESS centre.

ABOUT THE PROJECT

The Data Representation and Engineering lab at the Montefiore Institute of the University of Liège, which is started up and led by Prof. Christophe Debruyne, has been awarded an FNRS MIS grant for the “Introducing Context-Awareness in Data Integration Processes for Data-driven Projects with Knowledge Graphs” (CADIKG) project. This project studies data integration from various angles: data engineering, data science, and data governance. This project aims to formalize the context surrounding these angles and build intelligent models or agents that use that context to drive data integration processes.

JOB DESCRIPTION

The Ph.D. candidate will conduct research on *context-aware data engineering* in CADIKG. The ideal candidate will have a strong background in computer science, with expertise in areas such as artificial intelligence, knowledge graphs, and data engineering. The candidate will design and conduct experiments, analyse data, and develop novel algorithms and methodologies. Strong programming skills and a solid theoretical foundation are essential. The candidate will collaborate with the research team, attend conferences, and actively contribute to preparing research papers for publication.

SPECIFIC DUTIES & ACTIVITIES

- Conduct field and desk research.
- Complete the doctoral program.
- Formalize the context of data engineering in data integration.
- Propose methods and tools for using context models in data integration tasks.
- Attend meetings and collaborate with others in the CADIKG project.
- Design and conduct experiments.
- Disseminate research findings in conferences and journals.
- Write and defend a doctoral dissertation.

YOUR PROFILE

- **Required skills:**
  - The Ph.D. candidate must hold an MSc or MEng in computer science or equivalent and meet all the requirements to enrol in the university's doctoral program. Please note that your master's degree must be equivalent to a Belgian master's degree (180 ECTS/3 years BSc or BEng, followed by 120 ECTS/2 years MSc or MEng).
  - Demonstratable knowledge of graphs OR data engineering. (*)
  - Demonstratable ability to develop (prototypes).

- **Desirable skills:**
  - Knowledge of graphs OR data engineering. (*)

- **Soft skills:**
  - Collaborative and interactive spirit, but able to work independently.

- **Languages:**
  - Proficiency in the English language, both written and oral.

(*) The candidate has, ideally, demonstratable knowledge in either knowledge graphs or data engineering, which is (desirably) complemented with (demonstratable) knowledge in the other.

EMPLOYMENT TERMS

- **Type of contract:** full-time
- **Length of contract:** 4 years
- **Start date:** April 1, 2024 (or June 1, 2024, at the latest)

Employment is conditional on the candidate's successful registration as a doctoral student at the Doctoral School of the School of Engineering of the University of Liège. Doctoral studies must be completed per the School's rules and requirements for obtaining the degree.

OUR OFFER

With your career path and personal details, the ULiège Human Resources Department can assess the gross monthly salary. Employment benefits such as reimbursement of public transportation fees, and access to a variety of training opportunities are also included.

WHAT ABOUT TRAININGS?

For more information about training please consult: https://www.recherche.uliege.be/cms/c_12381524/en/listing-des-formations-transversales

WORK ENVIRONMENT

The Montefiore Institute is both the Department of Electrical Engineering and Computer Science of the University of Liège, and the associated Research Unit. Its mission is to provide high-quality education at the Bachelor's, Master's, and Doctoral levels, to conduct leading international research in selected areas of electrical engineering and computer science, and to be a driving force in turning research results into an industrial activity.

HOW TO APPLY

Please send the following documents in PDF to c.debruyne@uliege.be by 2024-01-31 (COB).

- Cover letter
- CV
- MSc or MEng diploma and transcripts in the original language, including a certified English translation if they are not in French
- List of publications (if any)
- Examples of academic writing (such as your master's thesis)
- References or letters of recommendation (optional)

SELECTION PROCEDURE

The application deadline is January 31, 2024, at 11:59 PM CET. Applicants will only be considered if they meet the eligibility criteria described above. Applicants will be assessed and shortlisted for interviews, expected to occur in mid-February. All candidates will be informed of the outcome of their application. Our institutional policy is based on diversity and equal opportunities. We select candidates based on their qualities regardless of their age, sexual orientation, origin, beliefs, disability, or nationality.

CONTACT DETAILS AND FURTHER INFORMATION

Informal inquiries about the project are welcome. Please feel free to contact Prof. Christophe Debruyne by email c.debruyne@uliege.be.

Release date: 08/01/204

Information on the processing of your personal

The personal data collected following your application will be processed by Christophe Debruyne of the University of Liege for the purpose of organizing the selection and recruitment.

These data will be processed based on the execution of pre-contractual measures (art. 6-1, b. of the RGPD)

These data will be kept for the duration of the selection procedure and, at the most, 9 months after the publication of the job offer. This data will not be passed on to third parties.

In accordance with the provisions of the General Data Protection Regulation (EU 2016/679), you may exercise your rights relating to this personal data (right of access, rectification, deletion, limitation, and portability) by contacting the ULiège Data Protection Officer (dpo@uliege.be - Mr. Data Protection Officer, Bât. B9 Cellule "GDPR", Quartier Village 3, Boulevard de Colonster 2, 4000 Liège, Belgium). You also have the right to lodge a complaint with the Data Protection Authority (https://www.autoriteprotectiondonnees.be , contact@apd-gba.be).