

**Research Centre**

Insight SFI Research Centre for Data Analytics

Post title

Postdoctoral Researcher in Trustworthiness and Quality Control in AI Enabled Services

Level on Framework

Level 2

Post duration

24 Month Fixed Term Contract

Dublin City University

Dublin City University (DCU) is a leading innovative European University. It is proud to be one of the world's leading Young Universities and is among the world's top 2% globally. DCU is known as Ireland's University of Impact, with a mission to 'transform lives and societies' and focuses on addressing global challenges in collaboration with key national and international partners and stakeholders.

DCU has over 20,000 students in five faculties spread across three academic campuses in the Glasnevin-Drumcondra area of North Dublin. Thanks to its innovative approach to teaching and learning, the University offers a 'transformative student experience' that helps to develop highly sought-after graduates. DCU is currently No. 1 in Ireland for Graduate Employment Rate, and for graduate income (CSO).

DCU is a research-intensive University and is home to a number of SFI-funded Research Centres. The University participates in a range of European and international research partnerships. DCU is also the leading Irish university in the area of technology transfer as reflected by licensing of intellectual property.

As a 'People First' institution, DCU is committed to Equality, Diversity and Inclusion - a University that helps staff and students to thrive. The University is a leader in terms of its work to increase access to education and is placed in the world's Top 10 for reducing inequalities in the Times Higher Education Impact Rankings.

Insight SFI Research Centre for Data Analytics

The Insight SFI Research Centre for Data Analytics (<http://www.insight-centre.org>) is an SFI funded Research Centre which brings together researchers from University College Dublin, NUI Galway, University College Cork, and Dublin City University, as well as other partner institutions, Trinity College Dublin (TCD), University of Limerick (UL), Maynooth University (MU) and Tyndall

National Institute. It creates a critical mass of more than 400 researchers from Ireland's leading ICT clusters to carry out research on a new generation of data analytics technologies in a number of key application domain areas, such as Health and Human Performance, Smart Communities, Internet of Things, Enterprise and Services and Sustainability and Operations.

The €150m Centre is funded by Science Foundation Ireland and a wide range of industry and European Union partners. Insight's research focus encompasses a broad range of data analytics technologies from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. Together, with more than 220 partner companies, Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

The Role

The successful candidate will assume the post of postdoctoral researcher in the Insight SFI Research Centre for Data Analytics under the supervision of Professor Boualem Benatallah in the School of Computing.

The Project

The project focuses on Trustworthiness and Quality control in LLM (Large Language Models) based AI enabled services. The project aims to devise novel audit analyse techniques and services through which: (i) stakeholders are empowered to interactively and collaboratively identify and systematically analyse erroneous and risky AI outcomes (e.g. bias in generated decisions and content), (ii) natural language utterances are used to interactively specify corrections and feedbacks aligning model outcomes with expert knowledge, human values, constraints and policies in general (iii) quality of human feedbacks and suggested corrections are systematically assessed to ensure accountability and protection from unintended consequences of a participatory approach (e.g., malicious users providing harmful feedback) and (iv) human-AI models continuously synthesise calibration policies and adapt themselves by reasoning and acting upon corrections and feedback by stakeholders.

Principal Duties and Responsibilities

- Conduct a programme of research in Trustworthiness and Quality control in LLM (Large Language models) based AI enabled services and deliver research outputs according to project schedules.
- Assist the Principal Investigator (PI) in the development of research grants and proposals to international funding bodies.
- Produce top quality journal and conference publications, in collaboration with the PIs.
- Participate in Insight Centre activities, including industry showcases, annual reviews and industry and agency visits to the Insight labs.
- Carry out administrative work associated with the programme of research as necessary.
- Other tasks relevant to successfully implementing the assigned research programme.
- Liaise with both external and internal stakeholders, including academics, undergraduate and postgraduate students, external supervisors and host placement schools.

- Preparation of project outputs, interim and final reports as required by the project schedule.
- Other tasks relevant to successfully implementing the assigned research programme.
- Attend and present results at project progress meetings.
- Identify opportunities for collaboration with industry partners and funding organisations.
- Identify and promote potential areas of inter-disciplinary and multi-disciplinary collaboration within the Centre and the University.
- Maintain a good understanding of the University's policies as they relate to research e.g. governance, data management, ethics and intellectual property.

Qualifications, Skills and Experience Required

The candidates should have a PhD in Computer Science and engineering or a related discipline.

- Demonstrated capacity to conduct research evidenced by international peer reviewed publications.
- The potential to interact with industry partners and end users.
- Knowledge in machine learning techniques, pre-trained models including large language models and generative AI, business process management, AI services in general is desired.

Skills

- Excellent written and oral proficiency in English (essential).
- Excellent written and verbal communication and interpersonal skills.
- Proven ability to prioritise workload and work to strict deadlines.
- Proven ability to write successful grant applications.
- Ability to lead multiple projects with overlapping deadlines.
- Ability to work in a team and to take responsibility to contribute to the overall success of the team.
- Strong problem-solving abilities.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

Understanding the Research Environment – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications.

Communicating Research – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

Managing & Leadership skills - Demonstrates the potential to manage a research project including the supervision of undergraduate students.

Essential Training

The postholder will be required to undertake the following essential compliance training: Orientation, Health & Safety, Data Protection (GDPR) and all Cyber Security Awareness Training. Other training may need to be undertaken when required.

In addition to inhouse training provided by DCU under the DCU Research Career Framework, extensive training is also provided by SFI in the areas of Design Thinking, Evidence Based entrepreneurship and Communications skills.

Research Career Framework

As part of this role the researcher will be required to participate in the DCU Research Career Framework (<http://dcu.ie/hr/ResearchersFramework/index.shtml>). This framework is designed to provide significant professional development opportunities to researchers and offer the best opportunities in terms of a wider career path.

DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally focused environment in which you can advance your academic career.

Dublin City University is an equal opportunities employer.

In line with the Employment Equality Acts 1998 – 2015, the University is committed to equality of treatment for all those who engage with its recruitment, selection and appointment processes.

The University's Athena SWAN Bronze Award signifies the University's commitment to promoting gender equality and addressing any gender pay gaps. Information on a range of university policies aimed at creating a supportive and flexible work environment are available in the [DCU Policy Starter Packs](#)