PhD Position at DCU AI Digital Twin Lab

School of Electronic Engineering & Insight Research Ireland Centre for Data Analytics, Dublin City University

We invite applications for a PhD fellowship at the INSIGHT Centre for Data Analytics, and School of Electronic Engineering at Dublin City University. The position is funded by INTERREG North-West Europe (NWE) funded project Multiroofs, which is a transnational initiative aimed at enabling public authorities to increase the multifunctional use of rooftops in NWE. The project addresses urban challenges such as climate change adaptation, energy transitions, and housing shortages by repurposing underutilised rooftop space. Multiroofs will develop strategies, a digital twin tool, incentive mechanisms, and capacity-building programs to encourage the adoption of multifunctional rooftops across NWE.

The topic:

The selected candidate will work on the design and development of digital twin technologies for urban planning. The student will work on designing information models for representing a variety of datasets in the 3D spatial environment. The candidate will also develop advanced data integration, data analysis and machine learning techniques for effective visualisation and simulation using digital twins.

Candidate skillset:

The candidate should have a Masters degree in a relevant field of study with an emphasis on areas such as Digital Twins, Internet of Things, Data Analysis, Machine Learning and Smart Cities.

Essential requirements include

- MEng in Electronic/Computer Engineering or an MSc degree in computer science, data science, artificial intelligence or related discipline.
- Strong understanding of programming languages and ability to develop robust software solutions.
- Ability to design and code web applications using java script and modern web application development frameworks.
- Experience of working on digital twin technologies, 3D Visualisation/Simulation or Virtual/Augmented Reality solutions will be a great plus.

The ideal candidate would also have:

- Ability to work in a team-based environment developing state of the art software solutions on time and to specification
- Motivated and proactive attitude, willing to take ownership and initiative in all work assignments
- Excellent analysis and problem-solving skills.
- Strong design, development & testing skills.
- Ability to produce relevant documentation.

- Skills in diagnostics development, bug-fix and problem resolution reporting and documentation.
- Excellent communication skills, verbal and written (English)
- Creative thinking

Informal queries about this position should be sent to ali.intizar@dcu.ie.

Application process:

Interested applicants are requested to submit (in pdf format):

- A **Curriculum Vitae** including relevant publications and the name and contact details of at least 2 referees

- a **one-page cover letter** explaining why you think you would be the best candidate for the position.

Submissions should be sent by email with subject "***Multiroofs-PhD-Application***" to ali.intizar@dcu.ie by **Friday 29th August 2025**. Early applications are strongly encouraged, as interviews will be conducted on a rolling basis and the position may be filled before the closing date.

Please note that only candidates selected for interview will be contacted.

The successful candidate is expected to start in September/October 2025.

This is a 4 year fully funded PhD position, with a PhD scholarship of euro 25,000 per year (no tax). Additionally, PhD fees are paid, and financial support for training, as well as sponsorship for conference travels will be provided.