



Research Centre	School of Electronic Engineering
Post Title	Postdoctoral Researcher in Data Analytics, Machine Learning and Large Scale Sensor Data Management.
Level on Framework	Level 1
Post Duration	Fixed-Term Contract up to 22 months

Research Career Framework

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path. The role may include teaching duties to assist with module delivery.

Overview

Dublin City University (www.dcu.ie) is a research intensive, globally engaged, dynamic institution which has developed its own research specialists, established internationally recognized centres of excellence that have substantive collaborative links with leading universities and industrial partners. DCU is distinguished both by the quality and impact of its graduates and by its focus on the translation of knowledge into societal and economic benefit. Through its mission to transform lives and societies through education, research and innovation DCU acts as an agent of social, cultural and economic progress. DCU is Ireland's fastest growing university and now hosts more than 17,000 students across its three academic campuses: DCU Glasnevin Campus, DCU St Patrick's Campus and CU All hallows campus. 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 to advance your academic career.

Background and Role

The School of Electronic Engineering is seeking to appoint a highly motivated Postdoctoral Researcher to undertake cutting edge research in the area of Data Analytics, Machine Learning and Large Scale Sensor Data Management. The successful applicant will join a multidisciplinary team to work in liaison with current researchers on Terrain-AI SFI funded project. Now, more than ever, we need high-quality, timely information about our farms, forests, natural wetlands and cities in order to better understand the interdependencies and interactions between the human activities and natural processes that create these complex environments.

This SFI funded project in the area of climate action will tackle this challenge through the innovative fusion of multi-thematic data-sources captured from space-borne satellites, aerial/drone platforms, in-field instruments, in-situ sensor networks and mobile devices with existing databases, on land use and population, using highly automated Machine Learning workflows to extract terrestrial features,

patterns and processes essential to understanding and managing these environments. Integrated land-surface models, capable of handling uncertainty, will utilise these AI outputs together with land-cover type, biomass and environmental variables to produce improved estimates of Carbon Stocks and Exchanges.

The ideal candidate will have experience working in the area of data analytics over IoT-based sensor data streams including data acquisition from sensors, data integration, large-scale data management, and application of AI and machine learning algorithms for multi-modal integrated sensor data streams. The post-holder will work on a project funding received from Science Foundation Ireland under the strategic partnership programme, with co-funding from Microsoft for a project in the area of climate action. The project team will have an opportunity to work closely with our industry partners to pursue goal-oriented research.

Principal Duties and Responsibilities

Please see job description for full list of duties and responsibilities.

Minimum Criteria

Applicants should have a PhD in Computer Science or related field with some relevant experience at postdoctoral level being preferable.

In addition, it is desirable that the candidate has experience in some of the following areas:

- Knowledge of a broad area of data science and data engineering with experience of managing and analysing big datasets.
- Strong programming skills in Java and/or at least one other programming language (C, C++, Python, Scala).
- Ability to work in a team-based environment developing state of the art software solutions on time and to specification.
- Ability to conduct multi-disciplinary research and understanding of various domains particularly terrestrial and climate related issues.
- Motivated and proactive attitude, willing to take ownership and initiative in all work assignments.
- Excellent analysis and problem-solving skills.
- Excellent communication skills, verbal and written (English).
- Creative Thinking.
- Experience in working on cloud based solutions for application of AI on large dataset e.g. Microsoft Azure.
- Knowledge of open source and distributed solutions and architectures for big data.
- Hands-on experience of working on cloud infrastructures and micro-services.
- General understanding of Machine Learning techniques and state of the art tools.
- Experience in research collaborations with industry.

Mandatory Training

The post holder will be required to undertake the following mandatory compliance training: Orientation, Health and Safety and Intellectual Property and Data Protection training. Other training may need to be undertaken when required.

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 convey 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.

Salary Scale: Postdoctoral Researcher IUA Salary Scale €38,632 - €50,029

**Appointment will be commensurate with qualifications and experience, and will be made on the appropriate point of the relevant salary scale in line with current Government pay policy.*

Closing Date: Monday 22nd February 2021

Informal enquiries to:

Assistant Professor Ali Intizar, Assistant Professor, School of Electronic Engineering, DCU, Dublin 9, Ireland. E-mail: ali.intizar@dcu.ie

Please do not send applications to this email address, instead apply as described below.

Application Procedure

Application forms are available from the DCU Current Vacancies (open Competitions) website at <http://www.dcu.ie/vacancies/current.shtml>

Applications should be submitted by email to hr.applications@dcu.ie.

Please clearly state the role that you are applying for in your application and email subject line:

Job Ref #RF1471 Postdoctoral Researcher Data Analytics, Machine Learning and Large Scale Sensor Data Management.

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](#)*