



**Research Fellow/Senior Research Fellow in Software System Analytics**  
**Lero Research Centre**  
**School of Computing**  
**Fixed Term Contract up to 14 Months**

Dublin City University [www.dcu.ie](http://www.dcu.ie) is a young, ambitious and vibrant University, with a mission ‘to transform lives and societies through education, research, innovation and engagement’. Known as Ireland’s ‘University of Enterprise and Transformation’, it is committed to the development of talent, and the discovery and translation of knowledge that advances society and the economy. DCU is the Sunday Times Irish University of the Year 2021.

The University is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. It currently has more than 18,000 students enrolled across five faculties – Science and Health, DCU Business School, Computing and Engineering, Humanities and Social Sciences and DCU Institute of Education. DCU is committed to excellence across all its activities. This is demonstrated by its world-class research initiatives, its cutting-edge approach to teaching and learning, its focus on creating a transformative student experience, and its positive social and economic impact. This exceptional commitment on the part of its staff and students has led to DCU’s ranking among the top 2% of universities globally. It also consistently features in the world’s Top 100 Young Universities (currently in QS Top 70 Under 50, Times Higher Top 150 Under 100).

DCU is placed 84th in the world, in the Times Higher Education University Impact Rankings – measuring higher education institutions’ contributions towards the UN Sustainable Development Goals. Over the past decade, DCU has also been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

**Background**

The Future Software Systems Architectures (FSSA) project, jointly funded by the Disruptive Technology Innovation Fund (established by the Department of Business, Enterprise & Innovation), FINEOS and FourTheorem, is a major project at the LERO centre <https://lero.ie> in Dublin City University. FSSA addresses a key emerging need in the global software business: how to migrate existing ICT systems to serverless microservices based architectures. DCU are known established innovators who undertake leading-edge research in the software architecture field, and this experience is supplemented with the extensive know-how of FINEOS, a global market leader in core systems for life, accident and health insurance. FourTheorem are software architectural specialists and noted software innovators. This is a ground-breaking innovative project, utilising leading-edge software architecture and machine learning techniques to address the challenge of migrating to future software systems paradigms.

FSSA is now seeking to recruit a Research Fellow or Senior Research Fellow to join the project team.

As part of this role the Research Fellow/Senior Research Fellow 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.

### **Principal Duties and Responsibilities**

Reporting to the Principal Investigator, the Research Fellow/Senior Research Fellow will:

- Take a lead role in the selection and implementation of data science/analysis requirements
- Disseminate the outcomes of the research in which they are engaged including publishing in high quality peer reviewed journals of international standing
- Supervise junior research staff
- Develop new research collaboration models
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre or the University
- Engage in teaching and teaching support as assigned by the Head of School under the direction of the Principal Investigator
- Manage and conduct administrative and management tasks associated with programme of research.

### **Minimum Criteria**

Applicants should have a PhD in Software Engineering or a strongly aligned discipline. Research Fellow applicants should have at least 4 years' postdoctoral research experience. Senior Research Fellow applicants should have at least 6 years' postdoctoral experience, 2 of which should be at Level 2 or equivalent of the DCU Research Career Framework.

Excellent written and verbal communication and interpersonal skills are essential.

In addition, it is beneficial if the candidate has experience in the following areas:

- Large scale java object-oriented project implementations
- Understanding of statistical analysis and/or AI principles as applied in software development, e.g. reinforcement, supervised and unsupervised learning.
- Backend development, server-side development including database layer (e.g. Python, Django/Flask, Node.js)
- Cloud skills/deployments including dev-ops (e.g. Nginx, Puppet, Ansible)
- Knowledge of architectural patterns for OO monolithic and distributed software architectures
- Microservice and/or Function as a Service implementation.

### **Candidates will be assessed on the following competencies:**

Research Fellow (level 2)

[https://www.dcu.ie/sites/default/files/hr/docs/competency\\_guidelines\\_research\\_fellow\\_level\\_2.pdf](https://www.dcu.ie/sites/default/files/hr/docs/competency_guidelines_research_fellow_level_2.pdf)

Senior Research Fellow (level 3)

[https://www.dcu.ie/sites/default/files/hr/docs/competency\\_guidelines\\_senior\\_research\\_fellow\\_level\\_3.pdf](https://www.dcu.ie/sites/default/files/hr/docs/competency_guidelines_senior_research_fellow_level_3.pdf)

**Essential Training**

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