Research Centre	Insight SFI Research Centre for Data Analytics
Post Title	Postdoctoral Researcher: eXtended Reality (XR)
Level on Framework:	Level 1
Post Duration	Fixed Term Contract up to 12 months

Dublin City University

Dublin City University 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.

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.

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.

The Project

There is a recent increase in the use of eXtended Reality (XR) applications in various scenarios, including: healthcare, education, manufacturing, etc. Growing amount of XR content is now accessed from mobile devices. However, the mobile devices have serious limitations in terms of battery capacity and processing power. One effective way to address these limitations is to offload the computation to cloud server. However, cloud computing is associated with long distances from servers to end users, which may result in long latencies, not tolerable by many mobile XR applications. To overcome such limitation, Multi-access Edge Computing (MEC) is proposed to bring the mobile computing, network control and storage services to the network edges, so that the computation-intensive and latency-sensitive applications can be deployed at the resource limited mobile devices. This project focuses on finding a solution to the multi-user computation offloading problem in the context of MEC-enabled heterogeneous network environment in order to support high quality mobile XR applications.

Principle Duties and Responsibilities
Reporting to his/her Principal Investigator the Postdoctoral Researcher will:
- Conduct research, software development, deployment and testing under the supervision and direction of the Principal Investigator
- Engage in appropriate training and professional development opportunities as required by the Principal Investigator, Centre, School or University in order to develop research skills and competencies
- Gain experience and contribute to grant writing with the support of and under the supervision of the Principal Investigator
- Engage in the dissemination of the results of the research in which they are engaged, as directed by, with the support of and under the supervision of the Principal Investigator.
- Acquire generic and transferable skills (including project management, business skills and postgraduate mentoring/supervision)
- Engage in the wider research and scholarly activities of the research group, Centre, School or University
- Provide support and advice to PhD students working on similar topics.
- Take leadership and contribute to generation of top quality papers, reports and funding proposals, in collaboration with the Principal Investigator.

- Carry out additional duties, including administrative work, as may reasonably be required within the general scope and level of the post
- Participate in Insight Centre activities, including industry showcases, annual reviews and industry and agency visits to the Insight labs.

Minimum Criteria

The candidate must have a PhD in Computer Science, Engineering or a related discipline with strong software and programming skills and relevant experience in telecommunications or networking-related areas

In addition, it is desirable that the individual has a subset of the following skills and experience:

- Appropriate technical competence and research experience in areas related to computer networks, rich media processing and analysis, rich media content delivery, quality of service, quality of experience.
- Good knowledge of Java or C/C++.
- Experience with modelling and simulations
- Excellent written and verbal communication and interpersonal skills.

- Excellent written and oral proficiency in English (essential)
- Excellent written and verbal communication and interpersonal skills.
- Proven ability to prioritize workload and work to strict deadlines.
- Ability to work in a team and to take responsibility to contribute to the overall success of the team.
- Strong problem solving abilities.

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 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