



Research Centre

Insight SFI Research Centre for Data Analytics

Post title

R&D Software Engineer Analyst Programmer

Post duration

Fixed Term Contract up to 18 Months

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.

Background

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 Project

Researchers at Insight have been developing state-of-the-art machine learning techniques for Natural Language Processing. These techniques have granted potential commercialisation opportunities in several sectors, particularly in traditionally conservative businesses. We are seeking people with a start-up mind-set to join our early-stage team developing a new software-as-a-service, which will dramatically improve workload efficiencies in conventional pen-and-paper markets. With output focused on our early-adopter clients, there is a significant opportunity for people with the right interests, enthusiasm and software skills to become part of a new high-growth company as the project develops.

The Role

We are seeking an R&D Software Engineer to design and develop cutting-edge machine learning algorithms capable of understanding and analysing large corpora of written language documents and oversee our MLOps pipeline.

Principal Duties and Responsibilities

The duties and responsibilities of the position include:

- Act as a technical architect and lead an agile engineering process within the project
- Participate in additional training to attain competency in MLOps engineering processes under regulatory constraints.
- Demonstrate a commitment to quality over expediency in software development.
- Engage regularly and effectively with customers working in regulated industry sectors.
- Identify and populate, in dialogue with Prof Ward, revised roadmaps for the proposed service.
- Lead the MLOps team for the duration of the project.
- To maintain accurate project records and project confidentiality.
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University.
- Use software engineering best practices to ensure a high standard of quality for all the team's deliverables. For example, write high-quality distributed system software.
- Perform code review.

Qualifications, Skills and Experience Required

Candidates must have a degree in an appropriate area or equivalent (NFQ Level 7), (typically in Computer Science, Software Engineering or a related discipline), and 6 years appropriate experience, 3 of which should be in machine learning and/or natural language processing.

The ideal candidate will have the following:

- 2-3+ years' experience with DevOps Engineering and with Machine Learning or MLOps
- Excellent knowledge of machine learning concepts and experience in building models
- NLP or sequential data processing experience is essential
- In-depth understanding of application of deep learning networks like RNNs, CNNs, and Transformers
- Strong Python development experience with the ML frameworks such as TensorFlow and PyTorch
- Strong problem-solving and software debugging skills
- Excellent verbal and written communication skills, including the ability to effectively explain technical concepts
- Experience with CI/CD pipelines and DevOps/MLOps best practices.
- Experience with cloud computing.
- Experience with Agile development methodologies and concepts
- Strong software development fundamentals, familiarity with software development lifecycle and best practices
- Ability to develop well-designed software that is clear, documented, tested and delivered continuously to production

In addition, candidates should have:

- Experience with ML or DL project implementations
- Understanding of AI principles as applied in software development, e.g. NLP.
- Cloud skills / deployments including dev-ops (e.g. AWS, MS Azure, GCP)
- Excellent written and verbal communication and interpersonal skills

Additional Information

The successful candidate will be offered opportunities for developing their own careers in a number of directions including support for conference/workshop travel, upskilling through Insight's continuous professional development in areas like research ethics and data privacy, student supervision and development and submission of their own research project proposals.

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.