JOB DESCRIPTION

Research Engineer

Analyst Programmer II

ADAPT Centre

Fixed Term Contract up to December 2022

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.

ADAPT Centre

The ADAPT Centre is Ireland's global centre of excellence for digital content technology. It combines the expertise of researchers at four universities(Trinity College Dublin, Dublin City University, University College Dublin, Technological University Dublin, Maynooth University and Cork Institute of Technology) with that of its industry partners to produce ground-breaking digital content innovations.

ADAPT brings together more than 200 researchers who collectively have won more than €100m in funding and have a strong track record of transferring world-leading research and innovations to more than 140 companies. ADAPT partners are successfully advancing the frontiers of content analysis,

machine translation, personalisation, e-learning/education, media technologies and spoken interaction, as well as driving global standards in content technologies. As part of the ADAPT Centre's remit, it will also be responsible for the ADAPT research programme as ADAPT is an evolution of the ADAPT Centre.

With €50m in new research funding from Science Foundation Ireland and industry and with ambitious targets for additional new funding under EU Horizon Europe and other programmes, ADAPT is seeking talented individuals to join its growing team. Our research and technologies will continue to help businesses in all sectors to achieve unprecedented engagement among customers, companies and communities.

Role Profile

ADAPT's Irish Language Technology team wishes to recruit a Research Engineer on a fixed term contract to work on the Irish government funded National Relay Station (NRS) project, the focus of which is to improve data collection from public administration across Ireland. As part of this project, which is coordinated by Professor Andy Way at the ADAPT Centre, Dublin City University, the particular focus of the ADAPT Centre's work is the improvement of translation technology for the Irish language. The work of the Research Engineer is primarily focused on reconfiguring the current National Relay Station website and toolchains. They will also be involved in locating, analysing and preprocessing public administration data in order to create pipelines to produce Machine Translation (MT) systems.

The candidate should have strong programming skills. Scripting skills are particularly desirable e.g. Python, Perl, Java. Experience in a relevant area of Natural Language Processing (NLP) would be a distinct advantage. Reporting to the Principal Investigator, the successful candidate will work alongside a diverse team and will have exposure to all aspects of project lifecycle from requirements analysis to design, code, test and face-to-face demonstrations with a variety of partners and stakeholders.

This is an excellent opportunity for those with both an interest and eagerness for improving translation technology for the Irish language. The successful candidate will work within a small team and will be exposed to a wide range of NLP activities.

This will involve liaising closely with Irish government departments, public bodies and European Commission-funded organisations in order to locate, analyse and process language resources that can in turn improve translation services. These resources are linguistic in nature but will be processed and applied in digital applications.

As a university-based research centre, we also strongly support continuous professional development and education.

Duties and Responsibilities

The Research Engineer will undertake duties and responsibilities as follows:

- Maintain and upgrade current NRS site, including:
    - Implementation of document processing toolchain(s) tailored for Irish
    - Updates and feature requests to web application as required
    - Training colleagues in the use and/or maintenance of the site
- Collaborate with dataholders in Ireland who create and manage Irish language documents to define requirements, troubleshoot issues and conduct demonstrations with the aim of locating and analysing relevant language resources
- Preprocess language data (including text extraction and conversion of file formats) in order to create data processing pipelines for Irish language technology development
- Regularly communicate with team members to ensure that they are kept up to date with the work that is done
- Document all work to ensure code and processes are easily understood by peers and can be maintained beyond the project's lifetime
- Work within the NRS team based in the ADAPT Centre to ensure project deadlines are met, contributing to reports and deliverables as required
- Liaise with technologists, academics and government officers involved in the project
- Liaise with academics working on other Irish Language Technology (ILT) projects within ADAPT and provide contributions when assistance is requested

Qualifications and Experience

Candidates appointed to this role must have a primary degree (NFQ Level 7) in Computer Science or a related discipline plus 4 years' appropriate experience. A degree in Linguistics would be considered if the candidate has sufficient programming skills.

In addition to the above, the successful candidate should possess a subset of the following skills and experience.

- Excellent knowledge of scripting languages: Python, Bash
- Solid comprehension of markup languages and data structures (e.g. XML)
- Experience with data analysis
- Excellent data management skills
- Proven ability to prioritise workload and work to established deadlines
- Flexible and adaptable in responding to stakeholder needs
- Excellent problem-solving abilities
- Strong team player who is able to take responsibility to contribute to the overall success of the team
- Excellent organizational skills, with the ability to coordinate and progress the tasks associated with own initiative
- Ability to provide training or advice to data holders (in Irish and/or English)

It is also desirable that candidates possess the following:

- Previous experience in an academic research environment is essential, and experience working in a multi-site research centre like ADAPT is highly desirable.

- Written and oral proficiency in English and Irish
- A postgraduate qualification in a related area
- Experience with translation technologies
- Comprehensive understanding of Machine Translation
- Experience with NLP

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.