



**Engaging Content**  
Engaging People

<b>Post Title:</b>	Research Engineer in Machine Learning & Natural Language Processing
<b>Post Status:</b>	Full-time Specific Purpose Contract until Dec 2020
<b>Department/Faculty:</b>	ADAPT, School of Computer Science and Statistics, Trinity College Dublin, the University of Dublin
<b>Location:</b>	The School of Computer Science & Statistics The O'Reilly Institute Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
<b>Reports to:</b>	Head of Design & Innovation
<b>Salary:</b>	Salary is aligned to the SFI scales ( <a href="#">link</a> ) and commensurate with experience.
<b>Hours of Work:</b>	37
<b>Closing Date:</b>	Until filled

**The successful candidate will be expected to take up post as soon as possible.**

### **Background to the Post**

The ADAPT Centre for digital content platform technology seeks to appoint Research Engineer(s) on a fixed term contract basis to facilitate the delivery of platform and targeted research projects. Working at the boundary of research and industry, the ADAPT Centre Spokes programme is an industry-focused programme where teams of researchers and research engineers collaborate with industry partners to work on solutions to industry needs. Successful industry participation is key to the ability of the Centre to deliver economic and commercial impact, and to its future sustainability.

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

ADAPT brings together more than 120 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. With €50M in new research funding from Science Foundation Ireland and industry, ADAPT is seeking talented individuals to join its growing research team. Our research and technologies will continue to help businesses in all sectors and drive back the frontiers of future Web engagement.

ADAPT is seeking to fill multiple positions: one specifically with expertise in NLP and the other a more general hands-on machine learning engineering position to work on a digital personal assistant project. We are hiring these positions into the lab at Trinity College which is based in Dublin City Centre.

### **Post Summary**

The successful candidate will work with the best and brightest talent in language technologies, content analytics, data analytics, adaptivity, personalisation, interoperability, translation, localisation and information retrieval. They will have exposure to all aspects of project lifecycle from requirements analysis to design, code, test and face-to-face demonstrations with customers.

This is an awesome opportunity for an early career software engineer who wants to fast track their progression through to specialist AI and Machine learning practice areas and domains. The team consists of 9 engineers and designers, 4 project managers and 2 system administrators. DLAB team members are empowered to work across all stages of the product development lifecycle and can be expected to propose architectural approaches, to engage actively in design workshops with industry partners and post-doctoral researchers and to demonstrate their work at professional and public events in addition to designing, writing and testing code. The DLAB works closely with our post-doctoral researcher colleagues to design and execute applied research projects with our industry partners. Being a university based research centre ADAPT also strongly support continuous professional development and education. In DLAB you will develop as an engineer, technically and scientifically. In addition, your confidence, leadership skills and communication abilities will be greatly enhanced.

**Informal enquiries about this post should be made to by e-mail to:** Ms Monica Lechea, Office Manager ([monica.lechea@adaptcentre.ie](mailto:monica.lechea@adaptcentre.ie))

## **Standard Duties and Responsibilities of the Post**

- Create Virtual Machines and EC2 instances loaded with the necessary software and application dependencies
- Work closely with UI and UX designers
- Ensure team members are up to date with the work that is done
- Work with ADAPT industry partners to define requirements, troubleshoot issues and conduct demonstrations
- Implement and develop unit tests of individual software components to ensure functionality and robustness of software applications
- Document all work to ensure code is easily understood by peers

## **Person Specification**

The successful candidate will have a broad experience in every aspect of the web development lifecycle. We are looking for someone who codes in multiple languages fluently and takes pride in the quality of their work. Someone who ensures their work - and that of their teammates - adheres to good standard practices and proven design patterns. The successful candidate is expected to

- Understand all aspects of industrial standard software development including the management of EC2 instance and data repositories of different types
- Have extensive experience with sentiment analysis, topic modeling, named entity recognition, information retrieval and other NLP-related techniques
- SQL, No-SQL and Linked data repositories and optimal data retrieval are part of the successful candidate's workload. The Research Engineer knows how to handle Message Queues but also knows how CSS can be used to improve User Experience
- Be a conscientious software engineer who takes pride in writing clean code
- Be proficient in the use of well-established design patterns and software engineering practices
- Be an authority on Machine Learning and/or NLP techniques
- Have a thorough understanding of, and experience with, development of web-based applications
- Have extensive experience with Code Repositories (Git)
- Have a thorough understanding of, and experience working in an Agile environment and working with Agile methodologies
- Be a strong team player who is able to take responsibility to contribute to the overall success of the team

## **Qualifications**

- Candidates appointed to this role must have a primary degree in Computer Science or a related discipline (essential) and a postgraduate qualification (which includes specialisation in one or more of NLP, AI, Machine Learning, Deep Learning)
- General experience in networking/web services/web dev/devops would also be an advantage
- The successful candidate will also have a minimum of three years industry experience

## **Knowledge & Experience (Essential & Desirable)**

### **Essential**

- Expert knowledge of, and experience with, NLP and Machine Learning

### **Desirable**

- Excellent knowledge of one or more of: Java, C++, PHP, node.js, Matlab/Octave, R, Objective-C, C
- Excellent knowledge of scripting languages: Python, Bash, Perl, JavaScript, d3.js
- Experience working with UNIX, Linux, VMWare, OSX and Windows operating systems
- Database management skills: MySQL, MongoDB, CouchDB, Neo4j, SQL
- Experience with web crawling, data wrangling, data analysis
- Excellent Understanding of Unit and Regression Testing Frameworks
- Knowledge of web application development and security
- EC2 expertise

## **Skills & Competencies**

- Excellent written and oral proficiency in English. (essential)
- Good communication and interpersonal skills both written and verbal.
- Proven aptitude for Programming, System Analysis and Design.
- Proven ability to prioritise workload and work to exacting deadlines.
- Flexible and adaptable in responding to stakeholder needs.
- Experience in releasing code to live production environments.
- Enthusiastic and structured approach to research and development.
- Excellent problem solving abilities.
- Desire to learn about new products, technologies and keep abreast of new product, technical and research developments

### **Further Information for Applicant**

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URL Link to ADAPT Centre	<a href="https://www.adaptcentre.ie/">https://www.adaptcentre.ie/</a>
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### **Trinity College Dublin, the University of Dublin**

Trinity is Ireland's premier university, with a proud tradition of excellence stretching back to its foundation in 1592. The oldest university in Ireland, and one of the oldest in Europe, today Trinity sits at the intersection of the past and the future, and is ideally positioned as a major university in the European Union. Our 47-acre campus is located in the heart of Dublin city centre and is home to historic buildings dating from the University's establishment, as well as some of the most cutting-edge teaching and research facilities in Ireland. Students at Trinity benefit from a unique educational experience across a range of disciplines in our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences. The pursuit of excellence through research and scholarship is at the heart of a Trinity education, and our researchers have an outstanding publication record and strong record of grant success.

Trinity has developed [18 broad-based multidisciplinary research themes](#) that cut across disciplines and facilitate world-leading research and collaboration within the University and with colleagues around the world. These internationally recognised themes include such diverse areas as Cancer, Immunology, Telecoms, Identities in Transformation, Nanoscience, Neuroscience, and Making Ireland. Researchers from across the University work together in innovative ways to develop new and exciting approaches to their research and explore the frontiers of knowledge in the 21<sup>st</sup> century. In creating these dedicated research themes, Trinity's researchers are able to

become a more powerful force on the global stage, successfully competing for large-scale grants and attracting top students and faculty to the University. Trinity is home to Ireland's first purpose-built Nanoscience research institute, CRANN, which opened in January 2008. This state-of-the-art facility houses 150 scientists, technicians, and graduate students in specialised laboratories, fostering creative innovations that have seen Trinity's researchers make significant breakthroughs.

The Trinity Long Room Hub for Arts and Humanities Research Institute is the University's flagship institute for research in the Arts and Humanities, providing a world-class environment for cross-disciplinary collaborative projects. The Long Room Hub provides a central location through which the University's internationally respected Arts and Humanities research can become more visible, demonstrating its relevance for contemporary and future societies. Researchers from across the University regularly participate in debates on topical issues facing the world today. As well as operating an International Visiting Research Fellowship programme, the Long Room Hub also hosts major EU-funded Digital Humanities projects.

One of the most instantly recognised parts of Trinity's campus is the famous Old Library, home to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps, and early printed material. Trinity's Library is the largest research library in Ireland and is an invaluable resource to Trinity's students and research community. Built up over the four centuries of the University's existence, the Library's collections have benefitted from its status as a Legal Deposit library for the past 200 years, granting Trinity the right to claim a copy of every book published in Ireland and the UK. At present, the Library's holdings span approximately 4.25 million books, 22,000 printed periodical titles, and access to 60,000 e-journals and 250,000 e-books.

Trinity attracts top students from Ireland and abroad and prides itself on the consistently high standard of student admitted to the University every year. These students are drawn to Trinity for the excellence of our research-led teaching and for the quality and prestige a degree from this University confers. Trinity has also pioneered accessibility to education in Ireland, becoming the first university in the country to reserve 15% of its undergraduate places for students from non-traditional learning groups. Trinity is the top-ranked European university for student entrepreneurship and Europe's only representative in the world's top-50 universities.

Our alumni have gone on to shape the history of Ireland and of Western Europe in a wide range of fields. These include such notable figures as Jonathan Swift, Oscar Wilde, William Rowan

Hamilton, Edmund Burke, William Stokes, Denis Burkitt, Louise Richardson, Lenny Abrahamson, and Anne Enright. Three of Trinity's graduates have been awarded Nobel prizes: Ernest Walton for Physics in 1951; Samuel Beckett for Literature in 1968; and William Campbell for Physiology / Medicine in 2015. Trinity also counts the first female President of Ireland among its alumni in Mary Robinson, as well as other notable former Presidents Douglas Hyde and Mary McAleese. At Trinity we are justifiably proud of our tradition, and we strive to uphold this excellence as we face the demands of the 21<sup>st</sup> century.

## Ranking Facts

Trinity is the top ranked university in Ireland. Using the QS methodology, the University is ranked 104<sup>th</sup> in the world and using the Times Higher Education World University Rankings methodology Trinity is 117<sup>th</sup> in the world.



## Overall

- Trinity is Ireland's No.1 University in the QS World University Ranking, THE World University Ranking and the Academic Ranking of World Universities (Shanghai).
- Trinity is ranked 104<sup>th</sup> in the World, and 36<sup>th</sup> in Europe, in the 2018/2019 QS World University Ranking.
- Trinity is ranked in the Top 120 for Graduate Employability in the QS 2018 Rankings.
- Trinity is in the Top 50 most innovative universities in Europe according to Reuters.<sup>1</sup>

<sup>1</sup> <http://www.reuters.com/article/us-innovative-stories-europe-idUSKCN0Z00CT>

- Between 2010 and 2015, Trinity was ranked the top university in Europe for entrepreneurship according to Pitchbook's independent analysis.<sup>2</sup>

### **Internationalisation**

- Trinity is ranked 52nd in the world in the THE World University Ranking for international outlook.

### **Research Performance**

- Of the 981 institutions included in the THE World University Rankings for 2017, Trinity is in the top 15% internationally for research performance.
- Trinity is ranked in the top 15% internationally by QS for citations.

### **In the QS World University Subject Rankings:**

- Trinity is ranked in the top 50 worldwide in four subject areas according to the QS World University Subject Rankings 2018. The University is ranked in the top 100 globally for 20 subjects overall.
- Trinity's Top 50 subjects include Nursing (25<sup>th</sup>), Classics (28<sup>th</sup>), English (28<sup>th</sup>) and Politics (43<sup>rd</sup>).
- Trinity is ranked in the top 100 for each of the following 16 subjects: History, Languages, Philosophy, Theology, Computer Science, Biology, Medicine, Pharmacy, Chemistry, Geography, Materials Science, Education, Law, Social Policy, Sociology and Sport.
- The University is ranked in the top 100 for three broad subject areas: Arts & Humanities (57<sup>th</sup>), Life Sciences & Medicine (87<sup>th</sup>), and Engineering & Technology (89<sup>th</sup>).

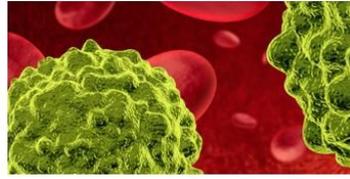
### **Research Themes**

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<sup>2</sup> <http://pitchbook.com/news/reports/2015-2016-pitchbook-universities-report>



**Ageing**



**Cancer**



**Creative Arts Practice**



**Creative Technologies**



**Digital Engagement**



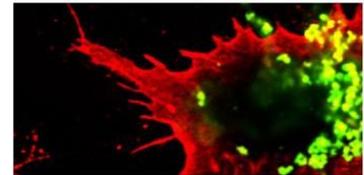
**Digital Humanities**



**Genes & Society**



**Identities in Transformation**



**Immunology, Inflammation & Infection**



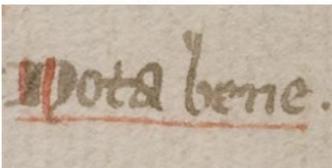
**International Development**



**International Integration**



**Making Ireland**



**Manuscript, Book and Print Cultures**



**Nanoscience**



**Neuroscience**



**Telecommunications**



**Smart Sustainable Planet**



**Next Generation Medical Devices**

## **The Selection Process in Trinity**

The Selection Committee (Interview Panel) may include members of the Academic and Administrative community together with External Assessor(s) who are expert in the area. Applications will be acknowledged by email. If you do not receive confirmation of receipt within 1 day of submitting your application online, please contact the named Recruitment Partner on the job specification immediately and prior to the closing date/time.

Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the University regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist. Outcomes of interviews are notified in writing to candidates and are issued no later than 5 working days following the selection day.

In some instances the Selection Committee may avail of telephone or video conferencing. The University's selection methods may consist of any or all of the following: Interviews, Presentations, Psychometric Testing, References and Situational Exercises.

It is the policy of the University to conduct pre-employment medical screening/full pre-employment medicals. Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

Applications from non-EEA citizens are welcomed. However, eligibility is determined by the Department of Jobs, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations <https://www.djei.ie/en/What-We-Do/Jobs-Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Highly-Skilled-Eligible-Occupations-List/> and the Ineligible Categories of Employment are set out in Schedule 4 of the Regulations <https://www.djei.ie/en/What-We-Do/Jobs-Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/>. Non-EEA candidates should note that the onus is on them to secure a visa to travel to Ireland prior to interview. Non-EEA candidates should also be aware that even if successful at interview, an appointment to the post is contingent on the securing of an employment permit.

## **Equal Opportunities Policy**

Trinity is an equal opportunities employer and is committed to employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community. On that basis we encourage and welcome talented people from all backgrounds to join our staff community. Trinity's Diversity Statement can be viewed in full at <https://www.tcd.ie/diversity-inclusion/diversity-statement>.

## **Pension Entitlements**

This is a pensionable position and the provisions of the Public Service Superannuation (Miscellaneous Provisions) Act 2004 will apply in relation to retirement age for pension purposes. Details of the relevant Pension Scheme will be provided to the successful applicant.

Applicants should note that they will be required to complete a Pre-Employment Declaration to confirm whether or not they have previously availed of an Irish Public Service Scheme of incentivised early retirement or enhanced redundancy payment. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Irish Public Service employment.

Applicants formerly employed by the Irish Public Service that may previously have availed of an Irish Public Service Scheme of Incentivised early retirement or enhanced redundancy payment should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Such queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

## Application Procedure

Applicants should submit a full Curriculum Vitae to include the names and contact details of 3 referees (including email addresses), together with a cover letter (1x A4 page) that specifically addresses the application procedure set out above.

**APPLICATIONS WILL ONLY BE ACCEPTED BY EMAIL:**

[monica.lechea@adaptcentre.ie](mailto:monica.lechea@adaptcentre.ie)



**UNIVERSITY  
VACANCIES IRELAND**  
universityvacancies.com



**DIVERSITY  
CHAMPIONS**

