Post Title | Postdoctoral Research Fellow in Machine Learning & Natural Language Processing
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Post Duration | 12 Months
Salary Scale | €39,523 - €51,035
Location | The School of Computer Science & Statistics The O’Reilly Institute Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Reports to | Dr. Yvette Graham
Closing Date | 16th June 2022

Why ADAPT?

- **Contribute** to the ADAPT research agenda that pioneers and combines research in AI driven technologies: Natural Language Processing, Video/Text/Image/Speech processing, digital engagement & HCI, semantic modeling, personalisation, privacy & data governance.
- **Work** with our interdisciplinary team of leading experts from the complementary fields of Social Sciences, Communications, Commerce/Fintech, Ethics, Law, Health, Environment and Sustainability.
- **Leverage our success.** ADAPT’s researchers have signed 43 collaborative research projects, 52 licence agreements and oversee 16 active commercialisation funds and 52 commercialisation awards. ADAPT has won 40 competitive EU research projects and obtained €18.5 million in non-exchequer non-commercial funding. Additionally, six spinout companies have been formed. ADAPT’s researchers have produced over 1,500 journal and conference publications and nearly 100 PhD students have been trained.

**As an ADAPT researcher you will have** access to a network of 85 global experts and over 250 staff as well as a wide multi-disciplinary ecosystem across 8 leading Irish universities. We can influence and inform your work, share our networks and collaborate with you to increase your impact, and accelerate your career opportunities. Specifically we offer:

- Exposure and free access within a multi-disciplinary ecosystem across 8 leading Irish universities
- Opportunity to build your profile at international conferences and global events
- Fast-track your career through formalised training & development, expert one-on-one supervision and exposure to top AI specialists
Research project

Dialogue systems aim to have high quality conversations with users, emulating natural conversation skills, all the while completing a task efficiently and improving user experience. Research into dialogue systems faces similar challenges to other areas of Natural Language Processing (NLP), with respect to evaluation of systems. How can we best evaluate systems so results are realistic, accurate, and reliable? Good evaluation of systems is vital to guide research in the most promising direction and to avoid following directions that unknowingly negatively impact the performance of systems from the perspective of human users. Dialogue systems research is thought to be the future of human computer interaction and providing a means of accurate evaluation in this area therefore remains a high priority in NLP. The topic is under-researched however possibly due to the significant challenges that lie in the development of good evaluation methods relative to other research areas.

The project involves development of successful methods of evaluation for dialogue systems, including human and automatic metric-based evaluation. On completion of the project, the researcher will have experience with integrating state-of-the-art dialogue models into crowdsourcing platforms, such as Amazon’s Mechanical Turk, as well as using neural networks for automatic evaluation of dialogue quality. The work involved in this project as well as high impact publication venues will result in experience highly desired by companies such as Facebook, Google and LinkedIn to name but a few, in addition to being valuable for academic research careers in NLP and Machine Learning.

About the role

- Have a high-valuable impact to the project through the implementation of technical solutions to the project goals, in particular methods of evaluation that will have high benefit within dialogue systems research community
- Enhance your reputation through publishing in top-quality journals and conferences in collaboration with team members
- ADAPT’s Research Development Team will help you develop your ideas into projects and establish a strong funding track record
- Participate alongside leading experts in exciting project activities and events to further research in machine learning
- Contribute to the development of the next generation of thinkers and innovators through teaching and supervision activities
- You will have the opportunity to nationally and internationally present and represent the ground breaking research carried out by you and the research team
- You will develop as a researcher through access to a wide training & development opportunity
- You will build a strong network through opportunities to liaise with internal and external stakeholders including industry and academic partners/collaborators.
- Involvement with all aspects of the project lifecycle
Minimum qualifications:
- PhD or equivalent in computer science or aligned field.

Preferred qualifications:
- PhD or equivalent in natural language processing or machine learning

Benefits
- Competitive salary
- Flexible working arrangements
- Computer and peripherals of your choice
- A fast-paced environment with impactful work
- Pension
- Day Nursery
- Travel Pass Scheme
- Bike to Work Scheme
- Employee Assistance Programme
- Sports Facilities
- 22 days of Annual Leave
- Paid Sick Leave
- Training & Development
- Staff Discounts

For informal inquiries please contact Prof Yvette Graham (yvette.graham@adaptcentre.ie) about the position.

Application Process
Applicants should submit an application via the following link: https://forms.gle/8xiELYq8QLR899Xp8.
As part of the application, candidates are asked to provide the following
- Cover Letter
  - A personal letter of motivation, indicating why you wish to conduct this research project offered by ADAPT, and why you expect that you will be able to complete the research successfully;
- CV
  - Detailed curriculum vitae, including – if applicable – relevant publications;

Diversity
ADAPT is committed to achieving better diversity and gender representation at all levels of the organisation, across leadership, academic, operations, research staff and studentship levels. ADAPT is committed to the continued development of employment policies, procedures and practices that promote gender equality. On that basis we encourage and welcome talented people from all backgrounds to join ADAPT.

About the ADAPT Centre
ADAPT is the world-leading SFI research centre for AI Driven Digital Content Technology, coordinated by Trinity College Dublin and based within Dublin City University, University College Dublin,
Technological University Dublin, Maynooth University, Munster Technological University, Athlone Institute of Technology, and the National University of Ireland Galway. ADAPT’s research vision is to pioneer new forms of proactive, scalable, and integrated AI-driven Digital Content Technology that empower individuals and society to engage in digital experiences with control, inclusion, and accountability with the long term goal of a balanced digital society by 2030. ADAPT is pioneering new Human Centric AI techniques and technologies including personalisation, natural language processing, data analytics, intelligent machine translation human-computer interaction, as well as setting the standards for data governance, privacy and ethics for digital content.

Our Research Vision
Governments and civil society are starting to recognise the need for urgent and concerted action to address the societal impact of the accelerating pace of digital content technologies and the AI techniques that underpin them. ADAPT provides an ambitious, ground-breaking, integrated research programme that assembles three interlocking Strands that together are capable of addressing this challenge. Each of these complementary and reinforcing research Strands takes one of the different perspectives on the provision of personalised, immersive, multimodal digital engagement, i.e. the individual’s experience and control of the engagement, the algorithms underlying digital content processing, and the balanced governance by enterprise and societal stakeholders.

Digitally Enhanced Engagement Strand
From the individual perspective, research within this Strand will deliver proactive agency techniques that sense, understand and proactively serve the needs of individual users to deliver relevant, contextualised and immersive multimodal experiences which also offer them meaningful control over the machine agency delivering those experiences.

Digital Content Transformation Strand
From the algorithmic perspective, new machine learning techniques will both enable more users to engage meaningfully with the increasing volumes of content globally in a more measurably effective manner, while ensuring the widest linguistic and cultural inclusion. It will enhance effective, robust integrated machine learning algorithms needed to provide multimodal content experiences with new levels of accuracy, multilingualism and explainability.

Transparent Digital Governance Strand
From the enterprise and societal perspective, new structured knowledge frameworks and associated practices for AI data governance will be required to balance the needs and values of individuals, organisations and society when it comes to rich digital experiences. This requires the advancement of research in the areas of data ethics, data quality, data protection, data value, data integration, and multi-stakeholder governance models.