Post Title: Postdoctoral Researcher in Generative AI & Knowledge Graphs

Post Duration: 12 months

Salary Scale: SFI Level 2B Point 1: €50,539

Location: Trinity College Dublin

Reports to: Professor Declan O’Sullivan

Closing Date: Friday 9th February 2024, 5pm GMT

Apply: https://forms.gle/DYQxj7Up5BKJoEh5A

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 modelling, 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 international research leadership, research excellence, industry collaborations, multidisciplinary outlook, strategic national position, and the opportunities arising from its scale, make our researchers highly sought after for collaboration and highly competitive in international funding programmes and has competitively won over 40 European Research Projects.

As an ADAPT researcher you will have access to a network of 85 global experts and over 250 staff, as well as a wide multidisciplinary 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 multidisciplinary 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/Challenge

The postdoctoral researcher role will undertake research into the appropriate use of Generative AI (e.g. ChatGPT type approaches) with respect to knowledge graph applications within the Transparent Digital Governance strand. Such possible usages include: the identification of data items for uplift into a knowledge graph; knowledge graph link prediction and completion; support of normal user (non-knowledge engineer) interactions with the knowledge graphs. Concrete use cases are available in ADAPT projects such as the Virtual Records Treasury of Ireland (virtualtreasury.ie) and the ERC VOICES (voicesproject.ie) projects at the very least. The output would include advisory documents and training materials for researchers in the Transparent Digital Governance strand in ADAPT, and a conference paper at venue in the generative AI or semantic web communities.

About the role

- Have a high-valuable impact to the project through the implementation of technical solutions to the project goals, in particular the application of generative AI to the application of Knowledge Graph technologies
- Undertake research and experiments to discover the appropriate usage of generative AI techniques within the established ADAPT projects applying knowledge graph techniques
- Work closely with the team of researchers (both from computer science and other disciplines) to develop a set of guidelines and training materials about the appropriate usage of generative AI in the application of Knowledge Graph techniques
- Excellent written and oral proficiency in English (essential), good communication and interpersonal skills both written and verbal
- Proven ability to prioritise workload and work to exacting deadlines
- Flexible and adaptable in responding to stakeholder needs
- Strong team player who can take responsibility to contribute to the overall success of the team
- Enthusiastic and structured approach to research and development
- Excellent problem-solving abilities
- Document all work to ensure code is easily understood by peers.
- Enhance your reputation through publishing in top-quality journals and conferences in collaboration with team members
- Participate alongside leading experts in exciting project activities and events to further research in Generative AI approaches within the application domains of Knowledge Graphs
- Contribute to the development of the next generation of thinkers and innovators through teaching and supervision activities
- You will develop as a researcher through access to a wide training & development opportunities
Minimum qualifications:
PhD or equivalent in computer science or aligned field

Preferred qualifications & skills:

- Demonstratable experience in the application of Generative AI techniques
- Demonstratable experience in W3C-based knowledge graph technologies (e.g. in semantic web or linked data applications)

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

Application Process

Interested candidates can submit their application via the following link: https://forms.gle/DYQxj7Up5BKJoEh5A

Applications must include:

- **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 based on your career to date;

- **CV**
  - Detailed curriculum vitae, including – if applicable – relevant publications;

Informal enquiries about the role can also be sent to Prof. Declan O’Sullivan, declan.osullivan@adaptcentre.ie.
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, Technological University of the Shannon, and the University of 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.
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.