Post Title: PhD Studentship in embodiment and perspective taking in human-agent dialogue
Anticipated Start Date: September 2021
Closing Date: 30th April 2021
Apply: https://forms.gle/Ut6qEGwSiYqxBK3R9

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 funded PhD 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:

1. Opportunity to build your profile at international conferences and global events.
2. A solid career pathway through formalised training & development, expert one-on-one supervision and exposure to top specialists.
3. A Fully funded, 4 year PhD postgraduate studentship which includes a stipend of (€18,500 per annum - non taxed), along with equipment, annual travel funding
4. Funding for annual student fees

Context

Recent speech and dialogue research has shown that people’s perceptions of partner abilities (i.e. their partner models) are significantly affected by human-like agent design, having significant impact on perspective taking in user language production. This project will look to identify the interplay between character voice and realism of virtual character embodiment on user perspective taking in dialogue with virtual agents. Specifically it will 1) identify the role of human-like avatar embodiment on partner modelling; 2) how voice design choices interplays with graphical representation of the character in forming partner model perceptions; 3) how this affects language production and audience design in human-agent dialogue. The project will harness expertise in HCI and speech
interfaces, speech synthesis graphics and visual perception in the ADAPT Centre to push the boundaries of understanding the cognitive and interaction based implications of virtual agent design. This work will break new ground in developing fundamental insight into how design influences language production, so as to inform theories of language production in human-machine dialogue.

The successful student will be supervised by Dr Benjamin Cowan (HCI@UCD Group – University College Dublin) in collaboration with Dr. Rachel McDonnell (TCD). The student will join the ADAPT team at UCD, and will be part of the DigitalEnhanced Engagement Strand within ADAPT. The student will also join the HCI@UCD group (https://www.hci.ucd.ie/) at University College Dublin, one of the largest Human-Computer Interaction groups in Ireland. The group publishes regularly in leading HCI venues and conducts leading work on speech interface HCI.

From this PhD you will gain skills and knowledge in psychological/cognitive approaches to human-computer interaction, specifically in the area of voice and speech interaction; quantitative research design; statistical analysis techniques; project management skills; research communication skills; statistical/interface programming experience.

The successful student will have the opportunity to explore industry as well as academic career paths, based on their desired direction.

For more info on doing PhD at UCD see: https://www.ucd.ie/graduatestudies/researchstudenthub/researchprogrammes/keypointsonresearchprogrammes/phdinanutshell/

Minimum qualifications:
- Primary Degree / PhD or equivalent in cognitive science, human computer interaction, psycholinguistics, sociolinguistics and/or computer science disciplines.

Preferred qualifications:
- Online experiment design and build experience
- Experience or the willingness to learn virtual agent/speech interface development technologies

Application Process
- Cover Letter (500 words maximum)
  - 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;
- Research statement (500 words maximum)

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- Research statement (500 words maximum)
○ Describing research interests and potential research direction within the PhD topic.

● 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 hosted by Trinity College Dublin. ADAPT’s partner institutions include 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.