Post Specification

Post Title:	Research Fellow
Post Status:	Specific Purpose Contract – Full-time
Research Group / Department / School:	Graphics and Vision Discipline, School of Computer Science and Statistics, Trinity College Dublin, the University of Dublin
Location:	Stack B, Custom House Quay Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Reports to:	Rachel McDonnell
Salary:	Appointment will be made on the SFI Postdoc Scale at a point in line with Government Pay Policy [€41,208 per annum], appointment will be made no higher than point 1
Hours of Work:	9am – 5pm
Closing Date:	12 Noon (GMT), [18 July 2024]

Post Summary

This post will be under the SFI Frontiers for the Future RADICal project (RADICal: on-set virtual Reality for Actors portraying DIgital Characters). The main aim of the RADICal project is to transform the traditional approaches for face and body capture of film actors using real-time motion capture and Virtual Reality (VR) to allow them to visualise their virtual faces and bodies from a first-person perspective, live on-set. We hypothesize that this will greatly enhance their performances and overall satisfaction in playing the role of a virtual character. The main novelty of our approach is incorporating actor methods and practices into the technical algorithms for motion tracking and mapping and conducting neuroscience experiments to enhance the illusory perception that a virtual body or body-part is the actors own.

This particular role will be related to using machine learning to enhance embodiment of humans and animals, and conducting perceptual experiments on embodiment in VR. This will involve investigating new machine learning algorithms or physics simulation to allow for more accurate embodiment of both humans and animals. Additionally, perceptual experiments will be conducted both on the actors immersed in VR and also on the viewers of the recorded performances of the actors (i.e., the movie audience), and the results will be fed-back to the system to inform the technical decisions.

Standard Duties and Responsibilities of the Post

- Publication of papers at top conferences and journals
- Assisting in the supervision of PhD students and MSc students in the lab
- Some teaching of guest lecture
- Unreal Engine or Unity. Candidate will use UE or Unity to develop the embodiment system and integrate neural networks for motion transfer.
- Performance Capture. The candidate will have to learn how to conduct an optical motion capture session with synchronised audio, and be responsible for running regular motion capture sessions, collection of data, processing of data, etc.
- Running Experiments. The candidate will be responsible for designing, implementing and running experiments on participants and actors, potentially with skin conductance, eye-tracking, EMG.

Funding Information

Person Specification

Qualifications

PhD in Computer Graphics or related field

Knowledge & Experience (Essential & Desirable)

Machine learning, Unreal Engine or Unity development

Skills & Competencies

- Strong technical proficiency (UE, Unity, ML, animation data)
- Strong on experimental design and statistical analysis
- Strong attention to detail and organization skills
- Teamwork and Collaboration

Application Procedure

Applicants should submit a full Curriculum Vitae to include the names and contact details of 2 referees (including email addresses), to:-

Name: Rachel McDonnell

Email Address: ramcdonn@tcd.ie

Further Information for Applicants

URL Link to Area	www.tcd.ie
URL Link to Human Resources	https://www.tcd.ie/hr/

Trinity College Dublin, the University of Dublin

Trinity is Ireland's leading university and is ranked 98th in the world (QS World University Rankings 2023). Founded in 1592, the University is steeped in history with a reputation for excellence in education, research and innovation.

Located on an iconic campus in the heart of Dublin's city centre, Trinity has 18,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked as the 17th most international university in the world (Times Higher Education Rankings 2020) and has students and staff from over 120 countries.

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 19 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. Trinity is also home to 5 leading flagship research institutes:
   -   Trinity Biomedical Sciences Institute (TBSI)
   -   Trinity College Institute of Neuroscience (TCIN)
   -   Trinity Translational Medical Institute (TTMI)
   -   Trinity Long Room Hub Arts and Humanities Research Institute (TLRH)
   -   Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Trinity is 1st in Europe for Producing Entrepreneurs for the 7th year in a row and Europe's only representative in the world's top-50 universities
(Pitchbook 2021-2022).

Trinity is home to the famous Old Library and to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps and early printed material. The Trinity Library is a legal deposit library, granting the University the right to claim a copy of

every book published in Ireland and the UK. At present, the Library's holdings span approximately 6.5 million printed items, 400,000 e-books and 150,000 e-journals.

With over 120,000 alumni, Trinity's tradition of independent intellectual inquiry has produced some of the world's finest, most original minds including the writers Oscar Wilde and Samuel Beckett (Nobel laureates), the mathematician William Rowan Hamilton and the physicist Ernest Walton (Nobel laureate), the political thinker Edmund Burke, and the former President of Ireland Mary Robinson. This tradition finds expression today in a campus culture of scholarship, innovation, creativity, entrepreneurship and dedication to societal reform.

Rankings

Trinity College Dublin is the top ranked university in Ireland. Using the QS methodology we are ranked 98th in the world and using the Times Higher Education World University Ranking methodology we are 146th in the World.

- Trinity College Dublin is Ireland's No.1 University
  (QS World University Ranking 2023, Times Higher Education Rankings 2022)
- Trinity is ranked 98th in the World
  (QS World University Ranking 2023)
- Trinity is ranked No.1 in Europe for Producing Entrepreneurs for the 7th year in a row
  Pitchbook 2021-2022

Full details are available at: www.tcd.ie/research/about/rankings.

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 hiring lead 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 Business, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations https://dbei.gov.ie/en/What-We-Do/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://dbei.gov.ie/en/What-We-Do/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