Graduate Teaching Assistant - PhD Scholarship in Games and X Reality

Staffordshire University is pleased to announce 6 new PhD scholarships in the Department of Games and Visual Effects, to commence September 2018. The successful candidate will receive an annual stipend of £14,777 with PhD tuition fees paid for three years. You will be expected to take up to 250 hours of teaching or teaching related activities per academic year in the Department of Games and Visual Effects. The posts are located on the Stoke-On-Trent campus.

Duration: September 2018 – August 2021

General entry requirements:

The successful candidate will have or expect to have a UK Honours degree at 2.1, a Masters degree, or equivalent qualifications in a relevant subject area.

International applicants whose first language is not English are required to achieve IELTS 6.5 with a minimum score of 6 in each element.

Please submit your application online with

1. Complete the GTA-PhD scholarship application form

2. A PhD research proposal based on one of the projects below (if you are interested in more than one project, develop your research proposal on the topic that you are most interested in.)

3. Digital portfolio or a link to your online portfolio (optional).

Project 1: Applications of Augmented Reality in Holocaust Memorials and Museums –

A case study in the Neuengamme memorial site

Primary supervisor:

Prof. Minhua Eunice Ma, Professor of Computer Games Technology, Staffordshire University

External supervisors:

Dr. Matthew Boswell, Associate Professor of Contemporary Literature & Culture, University of Leeds

Dr. Reimer Moller, Head of Archive, Neuengamme Memorial Site, Hamburg

Applications are invited for a fully funded GTA-PhD scholarship in the emergent areas of Augmented Reality (AR) and its applications in Holocaust memorials and museums. AR research and development has made rapid progress in the past decades. More advanced and portable AR hardware has become available, and registration accuracy, graphics quality and device size have been largely improved, which led to a rapid growth in the adoption of AR technology in various application domains.

In this project, you will design and develop an augmented reality application that provides an immersive experience for visitors to the Neuengamme memorial site in Hamburg. The application will offer meaningful, critically-informed interactions with Holocaust landscapes, relevant archives and other onsite material evidences. It will provide a creative window to the brickworks and slave labour in brick production in the concentration camp system, and help visitors to visualise and understand the chronology of the Holocaust and the connection between facts, locations, historical records, people and their memories, which are otherwise difficult to grasp or imagine. You will carry out user studies to evaluate the AR application, to investigate the impacts of AR technology on visitors' understanding of the Holocaust and their memory of the visit.

Specific requirements

* You will have or expect to have a UK Honours degree at 2.1, a Masters degree, or equivalent qualifications in computer science, games art/ design/ development.

* Be fluent in 3D modelling software (Maya or 3ds) and a game engine (Unity or UE4)

* Familiar with a programming/scripting language (C++ or C#)

* Experience of VR or AR content development is beneficial.

* Able to solve complex technical problems that occur within the production

* The ability to read and listen a second language in German, Russian, Polish or Hebrew is desirable.

Informal inquiries can be made to Professor Minhua Eunice Ma (m.ma@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.

Project 2: Esports Middleware Solutions for Game Engines

Primary supervisor: Associate Professor Bobbie Fletcher

Second supervisor: Dr David White

In this PhD you would be expected to solve complex technical problems and develop code to create middleware prototypes. With the growth of Esports many companies are looking to join the list of titles which can be included in international Esports tournaments. Currently many SME games companies already use off-the-shelf games engines as oppose to proprietary engines. The aim of this project is to assess the viability and create potential solutions to create Esports plugins for existing games engines to support those SMEs.

Specific requirements

* The successful candidate will have or expect to have a UK Honours degree at 2.1, a Masters degree, or equivalent qualifications in computer science, games programming or games development.

* Have programming skills in C++

* Have a demonstrable background in using UE4 and scripting in Blueprint

* Have a clear understanding of technical and industry related developments within middleware

* Able to solve complex technical problems that occur within the production

Informal inquiries can be made to Dr. Bobbie Fletcher (b.d.fletcher@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.

Project 3: Diversity and Representation in Esports Gaming Communities

Primary supervisor: Associate Professor Esther MacCallum-Stewart
Second supervisor: Dr Ying Ying Law

This project will look at what digital sport means for athletic identity across populations of different genders. It should engage with the individuals involved in Esports to understand how they shape and contribute to the social construction of professional gaming, and discuss how representation is played out within these communities. The project is also expected to develop ethnographic and theoretical perspectives on studying gaming communities as a social entity, in order to discuss some of the complex interactions that have emerged within gaming communities over the last few years.

Specific requirements

* A strong awareness of gaming cultures, specifically Esports or gaming communities.

* Be familiar with recent developments in both the UK and Europe/Nordic countries as regards games communities, socio-political changes in games cultures

* The ability to read and listen a second language in Spanish, German or be a member of a relevant Esports community in either Europe or the Nordic area (including Finland) is desirable.

Informal inquiries can be made to Associate Professor Esther MacCallum-Stewart (e.maccallum-stewart@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.

Project 4: An Ethnography of casters in Esports and Competitive Gaming

Primary supervisor: Dr Ying Ying Law
Second supervisor: Associate Professor Alke Groppel-Wegener

This PhD is expected to develop an ethnographic and theoretical perspective to explore the role of casters in esports for a specific esports game/s (with justification) – ranging from 'old school' to 'up and coming' casters who commentate on games with varying monthly active users, annual prize pool, monthly hours watched, as well as games that differ in game modes (for example, 1v1, 6v6, free-for-alls). It will engage with a variety of casters involved

in esports to understand how they shape and contribute to the social construction of professional gaming, and examine the various video game related practices to hone their craft and maintain their relationships with their audience and expectations.

Specific requirements

* Have a strong awareness of gaming cultures, specifically Esports or gaming communities.

* Be familiar with recent developments in esports casting, including aspects of celebritisation

* Be familiar with research gathering and data tools such as SPSS and other quantitative methodologies, and be comfortable with analysing data sets and extracting research findings from interviews, surveys and other information gathering tools.

* The ability to read and listen a second language in Spanish, German or be a member of a relevant Esports community in either Europe or the Nordic area (including Finland) is desirable.

Informal inquiries can be made to Dr Ying Ying Law (Ying-Ying.Law@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.

Project 5: Modelling Irrational AI Beliefs and False Information in Games

Primary supervisor: Dr David White
Second supervisor: Dr Yvan Cartwright

During this project you will be expected to develop models of AI and Artificial Life which exhibit rational decision-making based on (supposedly) irrational beliefs influenced by both 'true ' and 'false' information. Models will be based and extend on existing research into 'fake news' and attempts in the artificial-life research community to model this. The project will examine methods and produce a framework for developing these models into a working system for use in games. It will also attempt to answer whether these models can produce a gaming experience which is: unpredictable, variable, and more or less difficult than models with static, single belief (Us vs Them) systems. There may also be the potential to apply these models and the system developed outside the field of gaming.

Specific requirements

* The successful candidate will have or expect to have a UK Honours degree at 2.1, a Masters degree, or equivalent qualifications in computer science, games programming or Artificial Intelligence

* Be a competent developer in either C++, Java or C# (C++ preferred)

* Have some knowledge of Artificial Intelligence algorithms such as Neural Networks and Genetic Algorithms.

* A basic understand of Artificial Life - especially Agent Based Modelling.

* Able to solve complex technical problems

* Able to read and understand research papers outside your expertise - Psychology and Animal behaviour for example

* An understand of statistical methods (or the ability to learn - so a mathematics qualification such as a good GCSE or A-Level).

Informal inquiries can be made to Dr David White (david.white1@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.

Project 6: Natural Language Interaction and Narrative Structure in Games

Primary supervisor: Dr Yvan Cartwright
Second supervisor: Prof. Minhua Eunice Ma

The basis for this project is the application of state-of-the-art Natural Language Processing (NLP) techniques in interactive conversation with non-plyer characters (NPC) in existing games, esp. in the RPG genre, which have human authored dialog trees and use a menu-driven approach to interaction with NPCs. In this PhD you would be expected to create algorithms and AI to make believable conversational NPCs and games narrative, and design game mechanics that better use the NLP capabilities. The end goal is to make interaction, dialogue, storytelling and narrative structures in a computer game, that are chaotic and complex which reflects the natural human experience.

Specific requirements

* The successful candidate will have or expect to have a UK Honours degree at 2.1, a Masters degree, or equivalent qualifications in Computer Science, Artificial Intelligence, Natural Language Processing, Games Programming or Games development

* Have prior knowledge of natural language processing

* Be fluent in programming C++, C# or a scripting language

Informal inquiries can be made to Dr Yvan Cartwright (Y.J.F.Cartwright@staffs.ac.uk) with a copy of your CV and cover letter indicating your interest in the project and why you wish to undertake it.