FALMOUTH UNIVERSITY

JOB DESCRIPTION

Job title: Research Fellow

Grade: This post has been evaluated at Grade 6

Responsible to: Professor of Digital Games Technology

Responsible for: Research in Digital Games Technology

Date: 01 January 2016

Job purpose

Falmouth University has a population of 4,000 students and specializes in the creative and culture sectors, with a wide range of arts teaching and a thriving PhD research community. Over the last five years, the university has expanded its research activities through a merger with Dartington College and through a recruitment policy requiring research expertise. Our research and innovation agenda has a particular focus on Digital Economy and Sustainable Design. We also pride ourselves on an interdisciplinary outlook that means we bring creative insight and research impact not only to the creative and cultural industries, but also to a wide range of other public and private sectors.

The Games Academy at Falmouth University has recently been set up to deliver world-leading research and teaching of digital games technologies, practices and cultures. We investigate new technologies for digital games and the scientific and cultural impact these can have. In addition, the Launchpad programme at Falmouth enables and empowers student teams to build start-up companies in the digital games sector. Thanks to European Commission funding via the European Research Area programme (ERA), we have set up The MetaMakers Institute (metamakers.falmouth.ac.uk) to research Computational Creativity approaches to digital game design and beyond. In particular, we will be investigating how artificial intelligence techniques can be used for advanced procedural content generation, automated game design and creative empowerment for game designers.

There will be a particular emphasis on translational activities which bring ideas from computational creativity and procedural content generation research closer to commercial practice. This will be achieved through the implementation of automated designers which can offer services to the games industry, generate content and ideas for independent game designers and produce games on demand for players. We plan to take advantage of any commercial possibilities that arise, and to bring self-sustainability in funding for future research. There will also be a particular emphasis on the cultural mediation of videogames in artistic terms, promoting game design as artistic expression and exploring the links between digital games and other art forms.

The research fellows in the group will focus on the application of existing and novel techniques from artificial intelligence (including machine learning, evolutionary approaches, natural language processing, constraint solving, etc.), in addition to methods from graphics, audio and virtual worlds, to automating tasks related to designing and deploying video games. The research will take place in a Computational Creativity context, where the focus is on building systems which produce valuable artefacts, but do so in ways where it is appropriate to assign creative responsibility to the software, i.e., programs acting as creative collaborators with designers, and as autonomous creative entities, rather than as mere tools.

There will be a particular emphasis on taking procedural content generation to the level of whole-game generation, and using new techniques in projects leading to (i) creative empowerment of people through the co-creation of games with intelligent design support (ii) new genres of games (iii) advances in generic AI approaches (iv) automated designers embedded in gaming cultures, and (v) philosophical discussions surrounding the nature of automation in creative design. Researchers will follow leads and run projects independently, with help from other group members. They will also be expected to sporadically work together as a team, towards common goals, e.g., to develop platforms for future research. Research Fellows will also be expected to help in taking research prototypes and ideas to levels which are closer to commercialisation goals, and to play an active role in *The MetaMakers Institute.*

Health and safety at Falmouth University

The University takes health and safety matters very seriously. All staff have a responsibility to take reasonable care for the health and safety of themselves and others who may be affected by their actions and omissions. They also have a duty to comply with the University's arrangements for health and safety. Staff with responsibility for others must ensure the proper enactment of University policy within their areas in line with levels of responsibility set out in the University's Health and Safety Policy.

Main duties and responsibilities

1. To undertake independent research, resulting in leading REF outputs, into topics associated with computational creativity, procedural content generation and videogame design.

2. To write software for generative and creative purposes, with specific application to game design.

3. To perform experiments with software and users, in order to test hypotheses related to the implementation, the value of the output and the reaction people have to the software and its output. To assess, interpret and evaluate the outcomes of the research.

4. To write up procedures, experiments and results for scientific publication in workshop/conference proceedings and journals. To attend national and international conferences for presenting research results, where appropriate.

5. To translate knowledge of advances in the subject area into research activity.

6. To prepare timely and effective plans and reports on research projects as required.

7. To provide case studies of research projects that can be used as exemplars of best practice.

8. To work on focused projects as a team member for intensive periods to help translate research results into commercially-facing products and services.

9. To help the cultural mediator in the group to present research methods and results in a broader context of artistic creation.

10. To help organise scientific and artistic outreach events, such as workshops, conferences and exhibitions.

11. To help in grant writing activities to opportunistically fund research and potential commercial exploitation which arises from the projects in the Digital Games Hub.

12. To optionally undertake minor teaching duties in the Digital Games Hub.

13. To supervise the work of associated staff and/or student contributions in research projects, involving mentoring and supporting colleagues with less experience.

14. To plan and manage resources, including taking the lead responsibility on small research projects or identified parts of a large research project, and coordinating and contributing to multi-disciplinary and collaborative research projects.

15. To supervise postgraduate students as part of a team.

General duties and responsibilities

16. To work within and actively support the equality and diversity policies and practices of Falmouth University.

17. To notify a more senior member of staff of any errors or concerns at the earliest opportunity.

18. To participate in the annual Performance Development Review process.

19. To ensure that the university's cross-cutting themes of partnership, equality and diversity and sustainability inform all activity related to the role.

20. To ensure communications systems and practices support effective management arrangements and promote good relations with staff and students.

21.   To work within a framework of effective governance, ensuring compliance with relevant regulations, legislation/policies and procedures.

22.   To be responsible for your own continuing self-development.

23.   To undertake other duties not specifically stated above, which from time to time are necessary for the effective performance of the University's business without altering the nature or level of responsibility involved.

Health & safety requirements

In relation to health and safety, you are responsible for ensuring that:

- You comply with safe systems of work in operation within your work area.

- You work co-operatively with other staff who have responsibility for health and safety requirements.

- You report any health and safety concerns to your manager or other responsible member of staff as soon as these are identified.

- You attend training as appropriate to your role (see the relevant health and safety training grid for requirements).

- You may be required to undertake duties as a first aider (for which a separate allowance is paid).

PERSON SPECIFICATION

Job title: Research Fellow

Attributes	Essential requirements	Desirable requirements
Education and qualifications	A PhD. or near-completed PhD. in artificial intelligence, an area of digital games technology, computer science, cognitive science, or a closely related area.	Qualifications in programming skills, such as an undergraduate and/or MSc. degree in computer science.
Experience and knowledge	Engineering and experimenting with artificial intelligence software and/or complementary technologies such as machine vision, graphics, audio and machine learning. Digital games and/or related technologies, such as procedural content generation techniques or non-player character development. Experience in leading joint research efforts. Experience of writing and publishing scientific papers. Some experience of game design and programming. A strong academic track record, in particular a proven track record in delivering research projects to deadline and quality requirements.	Post-doctoral research experience. Maintaining large code-bases and sharing code via version control systems. Knowledge of and links with gaming communities, in particular independent game designers. Organising research-focused and/or cultural outreach events. Experience of computational creativity research methods and results. Experience of writing grant proposals.
Skills and personal requirements	Programming language skills, especially Java (or evidence of an ability to quickly learn new programming languages). Ability to work independently to bring research projects to fruition. Good team player, with strong inter-personal skills. Good attention to detail and highly organised. Proven effective interpersonal and communication skills, including written, IT and oral presentation skills.	Experience of programming with a modern game engine like Unity or Unreal. Experience of developing software in languages such as Swift, for hand-held platforms, such as iOS and Android. An interest in the future of human-computer interaction, specifically the aims of computational creativity research. Experience of undergraduate teaching. An interest in videogames as cultural art forms.

	Good attention to detail and highly organised. Ability to critically appraise research evidence. Ability to develop new research directions. Ability to balance the pressures of competing deadlines.	