

Research Fellow (GREET Doctoral Network)



Role Description

GRADE

Grade 5

LOCATION

Merchiston, Edinburgh

LINE MANAGER

Professor Xiaodong Liu

Role Summary

This post is for a fixed-term Research Fellow to be employed from April 2026 to April 2029, to work on a recently funded EU project called: GREET - Generative Explainee-aware Explainability and Transparency in Proactive Cyber-Physical Eco- Environments.

Funded by Horizon Europe's MSCA Programme, the GREET Doctoral Network offers an exciting opportunity for an early-career researcher to contribute to shaping a new generation of Cyber Physical Systems, which will support generative cognition, explainee-aware explainability, and transparent proactivity in the highly secured CPS eco-environments. Focused on the novel generative AI-driven CPS, GREET aims to deliver key insights into the science and models of the proposed CPS, set up its scientific foundation, and equip the DN's recruited Doctoral Fellows with skills to drive the next innovative steps in this key area.

This Doctoral Fellow will create the eco-cognition model and the eco-cognition generator based on LLM and Multimodal Models for real-time and multimodal cognition capture. Pattern recognition algorithms will be designed to understand the eco-cognition. Generative AI, model-driven architecture and feature model will be used. Furthermore, the Doctoral Fellow will study and develop the typical cognition patterns for CPS agents based on cognition theory, and study and develop typical multimodal interaction design methods for eco-cognition in Cyber Physical Systems.

The recruited Doctoral Fellow will meanwhile be registered for PhD degree at Edinburgh Napier University.

Researchers funded by Doctoral Networks must meet the following criteria:

- must not have a doctoral degree at the date of their recruitment
- can be of any nationality
- should be enrolled in a doctoral programme during the project
- should spend at least 50% of their time outside academia, for Industrial Doctorates
- should comply with the mobility rules: in general, they must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting organisation for more than 12 months in the 36 months immediately before their recruitment date

Line Management Responsibility for:

This role does not have any line management responsibilities currently.

Main Duties and Responsibilities

Teaching and Learning Support

- Could be expected to be involved in the assessment of student knowledge and supervision of undergraduate projects.
- Could be expected to assist in the development of student research skills at undergraduate or postgraduate level.

Research and Scholarship

- Define research objectives and questions.
- Conduct research under the supervision of senior colleagues.
- Prepare peer-reviewed publications for quality conferences and journals.
- Develop proposals for own or joint research, with the assistance of a mentor if required.
- Contribute to other's proposals for securing funds.
- Conduct individual and collaborative research projects.
- Write up research work for peer-reviewed publication.



- Continually update knowledge and understanding in field or specialism.
- Review and synthesise the outcomes of research studies.
- Translate knowledge of advances in the subject area into research activity.
- Disseminate results to academic/research audiences.
- Be registered for and complete a PhD degree at Edinburgh Napier University.

Communication

- Deal with routine communication using a range of media.
- Communicate complex information, orally, in writing and/or electronically.
- Preparing proposals and applications to external bodies, e.g. for funding and contractual purposes.
- Communicate material of a specialist or highly technical nature within forum specific to the subject.

Liaison and networking

- Liaise with colleagues and students.
- Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
- Join external networks to share information and identify potential sources of funds.

Managing people

- Manage personal and own-project research and administrative activities, with guidance if required.

Teamwork

- Work with colleagues on joint projects, coordinating as required
- Collaborate with academic colleagues on areas of shared research interest.
- Attend and contribute to relevant meetings.

Pastoral care

- Show consideration to others.

Initiative, problem-solving and decision-making

- Use new research techniques and methods.
- Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio.
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Contribute to collaborative decision-making with colleagues in areas of research.

Planning and managing resources

- Use research resources, laboratories and workshops as appropriate.
- Plan and manage own research activity in collaboration with others.

Sensory, physical and emotional demands

- Sensory and physical demands will vary from relatively light to a high level depending on the discipline and the type of work
- Carry out tasks that require the learning of certain skills.
- Balance with help the competing pressures of research consulting practice and administrative demands and deadlines.

Work environment

- Is required to be aware of the risks in the work environment and their potential impact on their own work and that of others.

Expertise

- Possess sufficient breadth or depth of specialist knowledge in the discipline and of research methods and techniques to work within established research projects or programmes or to act as lead researcher or consultant in projects.
- Engage in continuous professional development.
- Understand equal opportunity issues as they may impact on areas of research content.
- Role model the University's values & behaviours.
- Be responsible for ensuring that the information and records processed (received, created, used, stored, destroyed) on behalf of the University are managed in compliance with all applicable legislation, codes and policies e.g. [Data Protection](#), [Information Security](#) and [Records Management](#).

PERSON SPECIFICATION

ESSENTIAL DESIRABLE

Education / Qualifications

- A first degree (at least a 2:1) ideally in Computer Science with a good fundamental knowledge of at least one of the following areas: Human Computer Interaction, Semantic Modelling, Software Engineering, or AI.



Skills / Experience

• Demonstratable experience in conducting research in the field of human computer interaction or digital media, AI or cognition models, Cyber-Physical Systems or Software Engineering.	✓
• Demonstratable experience and or/good knowledge of human computer interaction, digital media, generative AI or explainable AI, or smart systems.	✓
• A good publication track-record demonstrating the ability to write up research work for high-profile publications.	✓
• Excellent skills in experimental design, experimental practice, and rigorous data analysis.	✓
• Excellent programming skills.	✓
• Experience of carrying out both independent and collaborative research.	✓
• Experience and knowledge of using software development platforms or tools.	✓
• Knowledge and skills in Latex/Overleaf.	✓
• Excellent organisation, prioritisation and time management skills, with a flexible approach to working.	✓
• Excellent written and verbal communication skills to engage effectively with a wide-ranging audience using a range of media.	✓
• Proven ability to generate and implement new ideas.	✓
• Ability to work independently and as a part of a team to deliver research.	✓
• Excellent analytical skills.	✓