1 Advertisement

Post Title: Research Fellow on XSCAPE - A new Methodology for the Study of Material Minds
School/department: Engineering and Informatics /Informatics
Hours: full time or part time hours considered up to a maximum of 1.0 FTE
Requests for flexible working options will be considered (subject to business need).
Contract: fixed term until 30/9/2023, with a possibility of renewal
Reference: 6023
Salary: starting at £33,787 to £40,322 per annum, pro rata if part time
Placed on: 26 May 2021
Closing date: 14 July 2021 Applications must be received by midnight of the closing date.
Expected Interview date: 4 August 2021
Expected start date: 1 October 2021 or as soon as possible thereafter

The position is to support a research project entitled “XSCAPE. A new Methodology for the Study of Material Minds” which is funded by the European Research Council (Horizon 2020 Synergy Grants). This is a multi-national, multi-centre project whose University of Sussex wing of the project is led by Professor Andy Clark.

The overall project investigates the various ways the material structures of our settlements, buildings, roads, and artefacts (from pottery to smartphones) actively change patterns of thought and attention, thereby shaping the modern mind. At Sussex, bridging Informatics and Philosophy, we will use the emerging computational neuroscience paradigm known as predictive processing as a principled means of linking perception, attention, and actions (including eye-movements) with cognitive change and learning. This will deliver insights into the fundamental principles that may be guiding materiality-driven cognitive change.

The primary activities for the PDRF are to design, implement and analyse a series of single and multi-agent simulation studies as part of this project. The simulations will use the ‘active inference’ paradigm as a platform to examine (at multiple scales of space and time) the complex interactions between learning, attention, and the material environment. Some illustrative pilot studies using the paradigm can be found at: https://psyarxiv.com/rchaf/

The successful candidate will be responsible for contributing to the exploration of the core themes of the project through designing and running the simulation studies, authoring and co-authoring research articles, organising project workshops and research seminars, and taking an active part in the overall project. There may also be opportunities to carry out a small amount of project-related teaching.

You will be based at Sussex and work under the supervision of Professor Andy Clark. You will collaborate closely members of the XSCAPE project team, both locally and in Spain and Germany where the other parts of the project are based.

This position requires someone with a PhD in Computer Science, Machine Learning, Artificial Intelligence, or Cognitive Science. You should have programming skills in a
language suitable for single and multi-agent simulation studies, such as Python or MATLAB, experience of designing and running simulation studies, and of analysing the results of such studies. In addition, you should have some experience of giving talks, and publishing research articles within one or more of these areas. Familiarity with one or more of the relevant philosophical, psychological, or neuroscientific literatures (on active inference, predictive processing, and the complex interactions between action, environment and attention) is not required but would be an advantage.

For informal enquiries please contact Prof. Andy Clark: andy.clark@sussex.ac.uk

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

Please note that this position may be subject to ATAS clearance if you require visa sponsorship

2. The School / Division

Please find further information regarding the school/division at http://www.sussex.ac.uk/ei/

3. CORE JOB DESCRIPTION

Job Title: Research Fellow on ERC Synergy grant project XSCAPE - A new Methodology for the Study of Material Minds

School/department: Engineering and Informatics, Informatics.

Grade: Grade 7

School: Engineering and Informatics

Location: Falmer Campus, Brighton

Responsible to: Professor Andy Clark (Principal Investigator)

Key contacts: Professor Andy Clark - andy.clark@sussex.ac.uk

Responsible for:

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as a platform to examine (at multiple scales of space and time) the complex interactions between learning, attention, and the material environment.

The successful candidate will also be responsible for contributing to the exploration of the core themes of the project through authoring and co-authoring research articles, organising project workshops and research seminars, and taking an active part in the overall project. There may also be opportunities to carry out a small amount of project-related teaching.

PRINCIPAL ACCOUNTABILITIES

1. To help design, and then implement and analyse, a series of single and multi-agent simulation studies to examine the complex interactions between learning, attention, and the material environment. This will require programming skills in Python, MATLAB, or similar.

2. To engage in individual and collaborative research activity concerning the project themes, resulting in high-quality publications

3. To build and manage the social media engagement for the Sussex wing of the project.

KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

1.1 Help design, and then implement and analyse, a series of single and multi-agent simulation studies to examine the complex interactions between learning, attention, and the material environment.

1.2 Write-up and publish the results of these studies, in collaboration with other team members.

1.3 Develop research objectives and proposals for your own or joint research on project-related themes.

1.4 Conduct other project-relevant research projects individually and in collaboration with others.

1.5 Contribute to the preparation of proposals and applications to external bodies, for example for additional funding purposes.

1.6 Individually or with colleagues, explore opportunities for public engagement and knowledge exchange.

2. Teaching & Student Support

2.1 Assist in the supervision and training of the two project-based doctoral students.

2.2 There may be an opportunity to deliver small amounts of project-relevant teaching.
3. Contribution to School & University

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator.

4. Role-specific duties

4.1 To help design, and then to implement and analyse, a series of single and multi-agent simulation studies to examine the complex interactions between learning, attention, and the material environment.

4.2 To organize project workshops

4.3 To build and maintain the project website.

4.4 To engage in outreach activities associated with the project, including maintaining a presence on social media, delivering public talks, and producing articles for the popular press.

4. Person Specification

Essential

1. Normally a PhD in either Computer Science, Artificial Intelligence, Machine Learning, Cognitive Science or equivalent professional qualification.

2. Programming skills in a language suitable for single and multi-agent simulation studies, such as Python or MATLAB.

3. Experience with the design and running of computer simulations.

4. Experience of interdisciplinary research in machine learning and/or cognitive science, such as by producing published research on these topics, or by covering these topics as part of their PhD dissertation.

5. Good management and organisational skills with the ability to 1) coordinate multiple tasks, 2) effectively prioritise and manage a diverse workload, 3) communicate and interact effectively, both with other project members and in a non-academic setting, and 4) work both independently and within a team with minimum supervision, and to solve problems as they arise.

Desirable

1. Familiarity with one or more of the project topics: active inference, predictive processing, and the complex interactions between action, environment, and attention.

2. Experience with running simulations using reinforcement learning or active inference.
3. Experience of working as a research fellow or research assistant on a large collaborative research project.

4. Emerging track record of publications in peer-reviewed journals, particularly on topics relevant to the project.

5. Experience of communicating research in non-academic settings and working with non-academic bodies.

6. Experience of organising academic events, particularly in a research/pedagogical setting.

7. The technical skills associated with creating and maintaining webpages and making the best use of social media.

Applicants are encouraged to direct any inquiry about the research goals and details of the project to the PI, Professor Andy Clark, andy.clark@sussex.ac.uk