1   Advertisement

Post Title: Research Fellow
School/department: School of Engineering and Informatics
Hours: Full time hours considered up to a maximum of 1.0 FTE
Requests for <u>flexible working</u> options will be considered (subject to business need).
   The position involves team work and frequent interactions with team members. Some international travel to conferences or workshops may be required.
Contract: fixed term until   30 September 2023 in the first instance
Reference: 8453
Salary: starting at £ 34,304   to £   40,927 per annum, pro rata if part time
Placed on: 12 April 2022
Closing date: 17 May 2022. Applications must be received by midnight of the closing date.
Expected Interview date: TBC
Expected start date: 01 July 2022

We are looking for a post-doctoral research fellow to join our team working on the final phase of the Human Brain project. You will be joining a dynamic team currently working on three areas

- A human-robot co-working demonstrator that is entirely based on neuromorphic spiking neural network technology in collaboration with the team of Dr Jörg Conradt at KTH Stockholm,
- Bio-compatible learning rules that emulate gradient descent in collaboration with the team of Dr Petrovici at University of Bern,
- "SPIKEFERENCE" - Spike-driven deep active inference for sequential goal behaviours in collaboration with the team of Dr Lanillos at the Donders Centre, Radboud University Nijmegen.

We are looking for a researcher with strong technical skills in Python, C++ or CUDA and experience in (spiking) neural networks, bio-inspired AI, neuromorphic computing or related areas.
You will conduct research in these areas with opportunities to set your own priorities within the project.

Please contact Prof Thomas Nowotny, t.nowotny@sussex.ac.uk   for informal enquiries.

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.

"*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 Department at
https://www.sussex.ac.uk/informatics/

3. Job Description

Job Description for the post of: Research Fellow in bio-inspired AI

Department: Informatics

Section/Unit/School: Engineering and Informatics

Location: Chichester I Building, Falmer Campus

Grade: 7

Responsible to: Prof Thomas Nowotny (PI) through to Head of School

Key contacts: Members of research group, members of faculty within the School and University.

Role description: Research Fellow I is an early career-grade research position. Post-holders will be expected to contribute to the work of the research team, and also to develop their research skills with support from more experienced members of staff.

PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

2. To contribute to School teaching activities.

KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.2 Conduct research projects individually and in collaboration with others.

1.3 Analyse and interpret research findings and draw conclusions on the outcomes.

1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School's REF submission at acceptable levels of volume and academic excellence.

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

1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

2. Teaching & Student Support

2.1 Undertake teaching duties, if required.

2.2 Assist in the assessment of student knowledge and supervision of student projects if required.

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

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 and/or Head of School.

4. Role-specific duties

4.1 Conduct research in bio-inspired AI under the direction of the Principal Investigator and in collaboration with the team and their collaborators

4.2   Participate actively in project meetings with international collaborators both online and in-person as required

4.3   Present results at leading international conferences

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

INDICATIVE PERFORMANCE CRITERIA

- A PhD or equivalent scholarly or relevant professional activity

- Pursuing a line of independent research within a research group.

- Publishing research (either from a recently completed PhD or new original research).

- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.

- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.

- Evidence of successful engagement in teaching or supervision.

PERSON SPECIFICATION

ESSENTIAL CRITERIA

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).

2. Evidence of engagement in high-quality research activity.

3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.

4. Ability to work individually on own initiative and without close supervision, and as part of a team.

5. Ability to exercise a degree of innovation and creative problem-solving.

6. Excellent organisational and administrative skills.

7. Ability to prioritise and meet deadlines.

8. Excellent IT skills.

ESSENTIAL ROLE-SPECIFIC CRITERIA

1. Strong background in machine learning, computational Neuroscience, bio-inspired AI, neuromorphic computing, or a relevant related discipline

2. Strong technical and analytical skills with expert level programming in a relevant programming language, e.g. Python, C++, …

DESIRABLE CRITERIA

1. Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.

2. Experience of generating research or knowledge exchange income.

3. Track record of research related to spiking neural networks

4. Experience with the GeNN framework for spiking neural network simulations or similar software frameworks