1 Advertisement

Post Title: Research Fellow in Natural Language Processing
School/department: Engineering and Informatics
Hours: part time hours considered up to a maximum of 0.5 FTE
Requests for flexible working options will be considered (subject to business need).
Contract: fixed term until 31 August 2023
Reference: 6890
Salary: starting at £34,304 to £40,927 per annum, pro rata if part time
Placed on: 21 September 2021
Closing date: 14 October 2021. Applications must be received by midnight of the closing date.
Expected Interview date: To be discussed with HR
Expected start date: As soon as possible

The Artificial Intelligence group at the University of Sussex is looking for a Research Fellow to work on a large, interdisciplinary EU-funded project. This is a research- intensive role with high publication potential in the rapidly developing field of humane and ethical Articificial Intelligence. The aim of the HumanE AI Net project is to facilitate AI systems that enhance human capabilities and empower individuals and society as a whole while respecting human autonomy and self-determination, developing robust, trustworth AI systems capable of what could be described as "understanding" humans whilst adhering to European ethical values. Within the project component at the University of Sussex, the main research area that will be addressed is the use of naturallanguage in human-in-the-loop machine learning, allowing humans to not just understand and follow the learning, reasoning, and planning process of AI systems (being explainable and accountable), but also to seamless interact with it, guide it, and enrich it with uniquely human capabilities, knowledge about the world, and the specific user's personal perspective.

Key responsibilities
The main mechanism for implementing the research agenda of HumanE AI Net are collaborative microprojects. Your role will be to participate in regular consortium meetings for the different work packages, identify synergies with consortium partners and co-develop one or more microproject proposal. Subsequently, you will carry out the microproject over a period of 3-6 months together with researchers from the consortium partners, either at Sussex or at one of the partner universities. For example, at this stage of the project, your role might be to research, implement and evaluate various knowledge representations (including logic, neural networks, logic tensor networks and latent representations of knowledge such as embeddings) as well as methods for leveraging the afore-mentioned representations not just to present humans with explanations based on simple links between input and output space, but to be able reason about shared internal representations just like humans can intuitively explain to others how they arrive at certain conclusions.

Key Requirements. Candidates should have a PhD in computer science or an equivalent field, combined with a strong background in natural language processing and machine learning. The candidates should have demonstrable experience in python

programming and relevant libraries e.g., pytorch, tensorflow and huggingface.

Please contact Dr Julie Weeds j.e.weeds@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.

For full details and how to apply see our [vacancies page](#)

2. The School / Division

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

3. Job Description

Job Description for the post of: Research Fellow in Natural Language Processing

Department: Informatics

Section/Unit/School: School of Engineering and Informatics

Location: AI Group, Chichester 1

Grade: 7

Responsible to: Dr Julie Weeds

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 Implement and evaluate various approaches for leveraging knowledge representationsin human-in-the-loop machine learning systems, both in explaining and guiding the decision-making process

4.2 Document and characterise the advantages and disadvantages of each approach

4.3 Engage and collaborate with the project's core team to implement functional prototypes

4.4 Support a potential commercialization of the developed technologies

4.5 Publish scientific results in high quality journals and present your work at international conferences.

4.6 Generate innovation ideas which may result in patents

4.7 Exchange expertise with PhD students and colleagues

4.8 Collaborate with the consortium partners as well as industrial partners, generate deliverables and reports and assist with flow of information among stakeholders

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.

4. Person Specification

ESSENTIAL CRITERIA

1. 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. Demonstrable expertise in natural language processing and knowledge representation including neural networks, knowledge graphs and latent representations / embeddings

2. Experience in python programming including pytorch, tensorflow and huggingface

3. Knowledge of the ethical implications of AI research and an interest in the application of AI for human / social good

DESIRABLE CRITERIA

1. Experience with deep neural networks and transfer learning, including BERT and various derivatives.

2. Interest in cognitive aspects of the field e.g., does an approach reflects human cognition? what can AI learn from human intelligence?

3. Successful track record in publishing at top-tier NLP venues such as ACL and EMNLP

4. A second European language

5. Willingness to travel