1 Advertisement

Post Title: Post-doctoral Research Fellow
School/department: Engineering and Informatics
Hours: Part-time hours considered up to a maximum of 36 hours. Requests for flexible working options will be considered (subject to business need). Requires regular work on campus.
Location: Brighton, UK
Contract: Fixed term (Maternity Cover)
Reference: 21155
Salary: starting at £36,333 to £43,155 depending on experience, pro rata if part-time.
Placed on: 10 July 2023
Closing date: 28 July 2023
Expected interview date: to be confirmed.
Expected start date: As soon as possible

The 6G Lab (https:// 6g-lab.org) at the University of Sussex invited applications for a Postdoctoral Research Associate (PDRA) (Maternity Cover) in Software Engineering/Power Engineering with a particular emphasis on the development of models/algorithms and subsequent simulators and software demonstrator systems in the Telecommunications and Power network convergence space, with a focus on communication networks for vehicle-to-grid (V2G) and smart and connected EV charging infrastructure.

This full-time post is part of a 24-month prestigious Network Plus grant,"A green, connected and prosperous Britain" comprising 4 academic partners (University of Sussex, LSBU, Imperial College London, University of Essex), industry and end users' groups to investigate with a focus on the integration and applications of telecommunication networks to support green, resilient and flexible power networks of the future.

The successful applicant will work as part of a team of different skill sets (Energy Networks, Communication Networks and end user acceptance of technology) .

Key responsibilities

1. To research and implement algorithms, models, simulation software and demonstrators, as required for the project.

2. To lead on/participate in the relevant work packages and liaise with partners to ensure successful outcomes.

3. To independently engage/consult effectively with team members to ensure research is timely, milestones are delivered and effectively communicate changes or highlight problems in a timely fashion.

4. To produce high quality research outputs, including publications in peer-reviewed journals at acceptable level of volume and academic excellence which may be submitted to the REF.

5. To make presentations at major conferences in the field, and to disseminate research in an engaging format via blogs, social media, the media and other forms of public engagement.

6. To develop further research opportunities in the area and liaise with partners to locate further funding opportunities.

7. Contribute to project reports, workshops, and demonstrations.

8. To undertake any other relevant duties/activities requested by the line manager.

Key Requirements. This post suits a highly motivated individual with excellent scientific and technical skills, a willingness to publish in high profile venues, and work collaboratively and smoothly part of a network. The candidate should have experience in software engineering, power engineering, algorithmic development and simulations and software demonstration. A PhD in a Computing/Power Engineering or Software Engineering is essential, as well as demonstrable experience with modelling and algorithm development, large scale simulation and software demonstrators.

Background. Led by Prof. Maziar Nekovee, the 6G Lab at the University of Sussex conducts research on 5G, 6G, next generation IoT, AI and Blockchain, with applications to energy, automotive and other industry sectors. This post is part of prestigious Network Plus grant, “Sustainability of urban systems and infrastructure”. The project titled “A green, connected and prosperous Britain” partners with LSBU, Imperial College London, University of Essex and the University of Sussex, industry, and end users’ groups.

Advantages and career development. This position is ideally suited for somebody who wants to advance their career in the rapidly advancing area of the applications 5G and 6G to the energy sector. This project will provide ample opportunity to work with a range of our academic and industry partners in the UK and Internationally across telecommunication and energy sectors.

Please contact Professor Maziar Nekovee m.nekovee@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.

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.

2. The School / Division

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

3. Job Description

Job Description for the post of: Post-doctoral Research Associate in Software/Communication Engineering

Department: **Engineering and Design**

Section/Unit/School: **School of Engineering and Design**

Location: **6G Lab, Richmond Building**

Grade: **7**

Responsible to: **Prof. Maziar Nekovee**

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 To further develop and implement in software/hardware novel algorithms and protocols for vehicle-to-gird systems.

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

4.3 Translate project outcomes to V2G applications

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

4.5 Collaborate with the academic and industrial partners, generate deliverables and presentation, 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.

5. Person Specification

ESSENTIAL CRITERIA

1. A PhD in a Computing/Communication Engineering or Software Engineering
2. Demonstrable experience with modelling and algorithm development.
3. Demonstrable experience with simulation development
4. Demonstrable experience with one or more relevant operating systems, Windows, Linux, OS, Android
5. Excellent experience in software development using MATLAB, Python, Java, C++ etc
6. Scientific papers and report writing, presenting, and project management using standard productivity software.

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

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

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

10. Excellent organisational and administrative skills.

11. Ability to prioritise and meet deadlines.

DESIRABLE CRITERIA

1. Working wnowledge of power grid networks and systems, protocol implementation
2. Working wnowledge of power communication networks and systems, protocol implementation
3. Working knowledge of Machine Learning and Deep Learning
4. Working knowledge of Cloud computing, GPU acceleration, parallel computing