Postdoctoral Researcher (x2) - Renewable Energy,

School of Computer Science, College of Science and Engineering,

Ref. No. University of Galway 065-24

Applications are invited from suitably qualified candidates for **two full-time fixed term positions as a Postdoctoral Researcher** with the School of Computer Science at the University of Galway. The University of Galway is a university with a strong focus on research, and a growing international profile, ranking among the top 1% of universities in the world.

These positions are available from 1st of October 2024 for one year with the possibility of extension subject to satisfactory performance. The position will be under the direction of Dr. Karl Mason, within his research group in the School of Computer Science:

There have been many high-profile achievements of Artificial Intelligence (AI) algorithms in recent years, demonstrating their effectiveness. This project will develop new AI algorithms and apply these methods to the agriculture sector in Ireland, focusing on dairy farming. Dairy farming is a very energy intensive form of farming. In order to decarbonise the dairy farming sector, it is necessary to better integrate renewable energy generation into dairy farming. This project will develop and apply AI methods to effectively integrate renewable generation into dairy farming, by combining it with recent technological developments in the energy sector. This project will investigate a range of topics relating to AI (deep learning, reinforcement learning, multi-agent systems, and agent-based modelling) and energy systems (energy modelling, renewable energy, energy management, and energy in agriculture).

Job Description:
The successful candidate will develop new AI algorithms and apply these methods to challenges relating to integrating renewable energy into dairy farming.

Duties:
- To develop AI algorithms and simulated dairy farm energy environments.
- Plan and conduct simulations and experiments.
- Work with other team members to plan project activities and set key milestones.
- Determine appropriate methodologies for research, with advice and support as appropriate.
- Keep up to date with research related methods and techniques.
- To complete administrative work to support the programme of research.
- To assist in the financial management of the project.
- Manage research resources, e.g. software and equipment, appropriately.
- Present findings at international conferences, leading peer-reviewed publications, lead/contribute to proposal and project report writing.
- Mentor junior team members.
- Develop software related to research activities.
- Write up results from own research activity.
- Engage in the dissemination of the results of the research with the support and under the supervision of the Principal Investigator by publishing reports.
- Publish on a regular basis.

- Assist with other research group activities.
- Any other duties assigned commensurate to this level of post

Qualifications/Skills required:
Essential Requirements:
- PhD in Computer Science, Engineering, Agricultural Science or related technical discipline. PhD should be awarded or near completion (Thesis submitted).
- Experience with computer programming.
- Knowledge of artificial intelligence, renewable generation, or agriculture.
- Excellent publication record.
- Extremely strong written and verbal English communication skills.

Desirable Requirements:
- Experience with deep learning, reinforcement learning or multi-agent systems.
- Experience with the agriculture sector.
- Minimum of two **first-author publications** in a relevant high-impact journal or conference.

Salary: Postdoctoral Researcher €42,782 - €54,965 per annum, (subject to the project's funding limitations), and pro rata for shorter and/or part-time contracts.

The default position for all new public sector appointments is the 1st point of the salary scale. This may be reviewed, and consideration afforded to appointment at a higher point on the payscale (subject to the project's funding limitations), where evidence of prior years' equivalent experience is accepted in determining placement on the scale above point 1, subject to the maximum of the scale. (Research Salary Scales - University of Galway)

Start date: Position is available from 1st October 2024.

Continuing Professional Development/Training:
Researchers at University of Galway are encouraged to avail of a range of training and development opportunities designed to support their personal career development plans. University of Galway provides continuing professional development supports for all researchers seeking to build their own career pathways either within or beyond academia. Researchers are encouraged to engage with our Researcher Development Centre (RDC) upon commencing employment - see HERE for further information.

Further information on research and working at University of Galway is available on Research at University of Galway

For information on moving to Ireland please see www.euraxess.ie

Informal enquiries concerning the post may be made to Dr. Karl Mason, karl.mason@universityofgalway.ie

To Apply:
Applications to include a covering letter, CV, and the contact details of three referees should be sent, via e-mail (in word or PDF only) to Dr. Karl Mason: karl.mason@universityofgalway.ie

Please put reference number **University of Galway 065-24** in subject line of e-mail application.