

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF SCIENCE & ENGINEERING
SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE
RESEARCH ASSOCIATE IN MACHINE LEARNING
VACANCY REF: SAE-024249

Salary: Grade 6 £36,024 to £44,263 per annum, depending on relevant experience

Hours: Full Time (1 FTE)

Duration: Fixed Term For 24 Months

Location: Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:

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Introduction to the University of Manchester

The University of Manchester is Britain's largest single-site university with a proud history of achievement and an ambitious agenda for the future. The quality, breadth and volume of research activity is unparalleled in the UK as indicated in the results of the independent Research Assessment Exercise.

Working for the University of Manchester

The University of Manchester strives to make our community a welcoming, caring and enthusiastic one, fuelling ambition with opportunities and support to help us all achieve our personal and professional goals.

Our diverse job opportunities include an attractive <https://www.staffnet.manchester.ac.uk/people-and-od/benefit/> with family-friendly policies that provide for flexible working. We care deeply about career and personal development, offering a structured induction programme for new staff, an annual performance and development review, staff training for all career stages and mentoring opportunities to support your career development.

We have a genuine commitment to <http://www.manchester.ac.uk/connect/jobs/equality-diversity/awards/> for our staff and students, and are proud to employ a workforce that reflects the diverse community we serve.

As a global institution, situated at the heart of a lively, <http://www.manchester.ac.uk/study/experience/student-life/city/>, we welcome applicants of all nationalities. To help international job applicants plan for life in the UK, we have put together some useful <http://www.staffnet.manchester.ac.uk/employment/joining-the-university/international-staff/> travel to the UK, accommodation and a number of other practical considerations.

Background

Applicants are invited for the post of Postdoctoral Research Associate at the interface between probabilistic machine learning and sustainability.

You will join a team of probabilistic modellers and machine learning researchers developing new collaborative AI principles and methods. This is an exciting topic which inspires new problems in fundamental ML work, and allows attacking new applications which make a difference, for instance in scientific research. Different team members have different expertise, and by working together can address more novel problems. Keywords include automatic experimental design, Bayesian inference, human-in-the-loop learning, machine teaching, privacy-preserving learning, reinforcement learning, inverse reinforcement learning, computational rationality and user modelling, and simulator-based inference. These probabilistic models will be used to improve sustainability in a collaboration with the Sustainable Materials Innovation Hub, using – for the first time – sustainability inputs to direct outcomes. Prior experience in sustainability or life cycle assessment is a plus but not required.

You will have excellent opportunities for working with top-notch collaborators on use cases at the [Sustainable Materials Innovation Hub](#) in the University of Manchester, machine learning collaborators at the [Centre for AI Fundamentals](#), [Turing Institute](#) and [ELLIS](#), and with industry in both the centre and the newly established [Turing Innovation Catalyst Manchester](#).

Overall Job Purpose

You will do research and publish both in your own speciality area, to which collaboration on the new collaborative AI principles and use cases bring exciting new angles and opportunities. With the research group you will contribute to developing new principles of AI-assistance and test them in environmental sustainability use cases.

Key Responsibilities, Accountabilities and Duties

The range of duties will include:

- Develop probabilistic modelling and inference techniques in one or more of the key topics
- Work with the research group to contribute to new principles of AI-assistance
- Apply the developed methods to improving environmental sustainability outcomes with collaborators
- Contribute to and lead scientific publications in key venues of both machine learning / statistics and applications
- Co-supervise PhD students and other students in your own and adjacent fields
- Present the work at leading conferences and more broadly with media and in research networks
- Communicate and collaborate with researchers of other fields and industry
- Liaise with colleagues and students and build contacts

- Attend and contribute to relevant meetings.
- Contribute to research group and project-related activities as required, for instance help organize visits and seminars, or contribute to funding proposals and reports

PERSON SPECIFICATION

Knowledge, Skills, and Experience

Essential:

- Have, or be about to obtain, a relevant PhD (or equivalent)
- Specialist knowledge in the discipline
- Experience in research methods and techniques to work within established research programmes; including programming experience
- Excellent communication and interpersonal skills
- Excellent time management and organisational skills
- Ability to work independently and as part of a team
- Ability to liaise confidently and effectively with a range of individuals
- Flexible approach to dealing with research problems as they arise
- Willingness to learn and develop
- Ability to present in both written and oral publications
- Ability to meet deadlines
- Strong publication record in key venues
- Understand equal opportunity issues as they may impact on areas of research content.