THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

SCIENCE AND ENGINEERING

SCHOOL OF ENGINEERING

COMPUTER SCIENCE

RESEARCH FELLOW IN MACHINE LEARNING

VACANCY REF: S&E-018439

Salary:	Grade 7 £43,414 to £53,353 per annum, depending on relevant experience
Hours:	Full Time (1 FTE)
Duration:	Fixed Term for four years till 30th September 2026 (immediately available)
Location:	Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:
Name: Professor Samuel Kaski
Email: samuel.kaski@manchester.ac.uk

Background
Applicants are invited for the post of Research Fellow in probabilistic machine learning.

You will join a team of probabilistic modellers and machine learning researchers developing new principles for AI-assistants, which are able to help their users even when the goals are only partially known, such as in the beginning of scientific research. This will require expertise on multiple topics; you are expected to have experience in one or more of these and be interested in working with experts on the others.

Keywords include: advanced user modelling, automatic experimental design, Bayesian inference, human-in-the-loop learning, machine teaching, privacy-preserving learning, reinforcement learning and inverse reinforcement learning, and simulator-based inference.

Initial applications will include decision making in personalized medicine, steering experimental design in drug design and synthetic biology, and design of digital twins and decision making with them. Prior experience on the application domains is a plus but not required.

The team is funded by an UKRI AI World-Learning Researcher Fellowship, and will be based in a new centre for Fundamental AI Research being established at the University of Manchester.

You will have excellent opportunities for working with top-notch collaborators on use cases in application fields in the University of Manchester and industry, and machine learning collaborators at The Turing Institute and ELLIS.

Overall Purpose of the Job:
You will do research and publish both in your own specialty area, to which collaboration on the new AI-assistance 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 use cases. You will also co-supervise a small team of postdocs and doctoral students.

Key Responsibilities, Accountabilities or 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 one or more use cases with collaborators
- Contribute to and lead scientific publications in key venues of both machine learning / statistics and applications
- 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 more widely
- 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
- Supervise postgraduate research students and co-mentor postdocs
- Develop research objectives, projects and proposals
- Identify sources of funding and contribute to the process of securing funds
- Take lead responsibility for a small research project or identified parts of a large project.
- Plan, co-ordinate and implement research programs

PERSON SPECIFICATION

Essential Knowledge, Skills and Experience:
- Hold a relevant PhD (or equivalent)
- Hold a high academic standing with a growing reputation in research
- Specialist knowledge in the discipline to develop research programs and methodologies
- A sustained publication record in key venues
- Experience in planning, building a team and delivering results.
- Evidence of ability to negotiate contracts independently, or as a leader of a section in major projects, in a chosen field of study to sustain self (and possibly group of colleagues).
- 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 publication
- Ability to meet deadlines
- Understand equal opportunity issues as they may impact on areas of research content