

The Alan Turing Institute

Theme Lead – AI for Physical Systems

THE ALAN TURING INSTITUTE

There has never been a more significant time to work in data science and AI. There is recognition of the importance of these technologies to our economic and social future: the so-called fourth industrial revolution. The technical challenge of keeping our data secure and private has grown in its urgency and importance. At the same time, voices from academia, industry, and government are coming together to debate how these technologies should be governed and managed.

The Alan Turing Institute, as the UK's national institute for data science and artificial intelligence, plays an important part in driving forward advances in these technologies in order to change the world for the better.

The Institute is named in honour of Alan Turing, whose pioneering work in theoretical and applied mathematics, engineering and computing is considered to have laid the foundations for modern-day data science and artificial intelligence. The Institute's goals are to undertake world-class research, apply its research to real-world problems, driving economic impact and societal good, lead the training of a new generation of scientists, and shape the public conversation around data and algorithms.

After launching in 2015 with government funding from EPSRC and five founding universities, the Institute has grown an extensive network of university partners from across the UK and launched a number of major partnerships with industry, public and third sector. Today it is home to more than 500 researchers, a rapidly growing team of in house research software engineers and data scientists and a business team.

BACKGROUND

The Alan Turing Institute focuses on world-class science and innovation, generating internationally leading research and translating it into real-world impact and deployment. The Institute is developing research in key strategic mission areas in Environment, Sustainability, Defence & National Security, and Fundamental Research in AI.

We are looking for a Theme Lead to join the Fundamental Research team to develop and deploy cutting-edge AI techniques, centred around our mission to develop AI for Physical Systems. We are developing foundational theory, methods and tools to advance the state-of-the-art of the use of AI to model, predict and control physical systems. We work closely with the Grand Challenges to operationalize the technologies developed to create substantial real-world impact.

ROLE PURPOSE

The primary purpose of the role is to conduct internationally leading research, and the postholder will be part of the Institute's Fundamental Research team. The Theme Lead will be part of a collaborative, multidisciplinary team of researchers and research engineers, and will be expected to engage with internal and external stakeholders and collaborators to support delivery of an ambitious research programme.

The Theme Lead will work across the Turing's Science and Innovation portfolio, including Defence and National Security, Environmental Forecasting, Sustainability, Fundamental Research and Strategic Capabilities, to embed and align the AI for Physical Systems Mission.

As a Theme Lead, you will direct a high-priority research portfolio at the cutting edge of AI for Physical Systems. You will tackle real-world challenges to shape a national priority at a transformative moment for the field.

We are seeking a leader with an outstanding track record in AI for Physical Systems and a passion for multidisciplinary, impact-driven collaboration. Reporting to the Mission Director for Fundamental Research, you will provide strategic leadership and line management for researchers and engineers. This is a standout opportunity to define the future of national research within a world-leading institute.

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HOW YOU WILL MAKE AN IMPACT

You will ideally have an international profile as a researcher working in one or several disciplines, with experience of project delivery and leading a research team with a focus on AI for Physical Systems. You will be expected to work closely with mission leadership to:

- Lead the development of the research strategy for AI for Physical Systems and ensure strategic links between other research themes and missions.
- Lead on the technical oversight of project proposals that are within the area of research, that includes, but is not limited to, proposed activities, resource plan, timeline, deliverable outputs and budget.
- Lead grant proposals and bids for funding within the thematic area AI for Physical Systems.
- Represent the Institute in meetings, and external conversations with key stakeholders. Deputise for Mission Director as needed in topics relating to AI for Physical Systems.
- Work with Partnerships team to establish collaborations both nationally and internationally to enable operationalisation of outputs.
- Lead delivery of the theme's active research and shape its evolution as flagship projects conclude and new awards are secured.
- Lead original research outputs / programmes / methodologies.
- Communicate technical topics to colleagues and external partners by preparing presentations, reports, blogs, podcasts.
- Inform funders and the Turing Leadership on appropriate use of funds within your team, in line with institute processes.
- Work with other Turing support functions (e.g., Programme Management, Research Engineering Group, Finance, Communications, Events and Legal teams) where appropriate.
- Line manage staff within the theme, supporting their career development aspirations.

Please note that job descriptions cannot be exhaustive, and the postholder may be required to undertake other duties, which are broadly in line with the above key responsibilities. This job description is written at a specific time and is subject to changes as the demands of the Institute and the role develop.

PERSON SPECIFICATION

Institute Skills and Requirements Post holders will be expected to demonstrate the following:	Essential (E)	Tested at application (a)
	Desirable (D)	Tested at interview (i)
A strong track record and experience in a relevant area, e.g., machine learning, AI, computer science, mathematics, statistics, physics, engineering,	E	A, I
Leadership and strategic vision skills, especially as required in a complex collaboration with external partners	E	A, I
Evidence of leading grant applications and securing external funding	E	A
Excellent communication, negotiation and influencing skills at all levels	E	A, I
Able to identify and present key information, highlighting any potential issues as required, to influence future plans	E	A, I
Commitment to EDI principles and to the Organisation values	E	I
Experience in modelling of complex systems	D	A, I
Experience leading projects from ideation, scoping, and delivery through to impact.	D	A, I
Ability to coach and mentor others with the ability to provide sound advice, develop team knowledge and improve team efficiency	D	A, I

APPLICATION PROCEDURE

If you are interested in this opportunity, please click the apply button on our career's website. You will need to register on the applicant portal and complete the application form including your CV and covering letter. If you have questions about the role or would like to apply using a different format, please contact us at recruitment@turing.ac.uk.

TERMS

AND

CONDITIONS

This full-time post is offered on a 2 year fixed-term basis until. The annual salary range is £78,367 - £81,876 plus excellent benefits, including flexible working and family friendly policies, <https://www.turing.ac.uk/work-turing/why-work-turing/employee-benefits>

EQUALITY, DIVERSITY AND INCLUSION

We value diversity of background, experience, and perspective, and are proud to be an inclusive employer. We warmly encourage applications from all backgrounds, particularly from groups currently under-represented in our sector. If you feel passionate about this role but don't meet every single requirement, please apply – we recognise that great candidates may bring strengths beyond the criteria listed.

We are committed to making sure our recruitment process is accessible and inclusive. This includes making reasonable adjustments for candidates who have a disability or long-term condition. Please contact us at recruitment@turing.ac.uk to advise us how we can assist you.

Please note all offers of employment are subject to obtaining and retaining the right to work in the UK and satisfactory pre-employment security screening which includes a DBS Check. Full details on the pre-employment screening process can be requested from HR@turing.ac.uk.

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OUR VALUES

The Alan Turing Institute is committed to equality diversity and inclusion and to eliminating discrimination. All employees are expected to embrace, follow and promote our [EDI Principles](#) and Our Values.

Our values



Trust

We create an environment where we have trust and can be trusted



Inclusivity

We expect our Turing community to contribute to a culture that is inclusive and free of barriers



Respect

We all have different roles, priorities and challenges but our shared purpose is the same



Leadership

Leadership is everyone's business; Turing leaders set the right tone and lead by example



Transparency

Everyone should understand the how and the why of our decisions and actions



Integrity

We are all ambassadors for the Turing's mission of changing the world for the better