

The Alan Turing Institute

PROGRAMME DIRECTOR, DATA-CENTRIC ENGINEERING (DCE)

THE ALAN TURING INSTITUTE

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 Institute has cross-disciplinarity at its core; we bring researchers in mathematics and theoretical computer science, statistics and machine learning, algorithms for data analytics and distributed computing, computational social science and data ethics, software engineers and industry partners, to work together in an open and collaborative environment with a shared goal to generate world-class research in data science and artificial intelligence.

The Institute is motivated by driving impact, both through theoretical development and application to real-world problems. We have identified a growing number of priority domains to focus our translational research which include: data-centric engineering; defence and security; urban analytics; computing technology; financial services; and health, with artificial intelligence informing work across the Institute. We have attracted strategic partnerships with a broad range of data science and AI users including Lloyd's Register Foundation, the Bill and Melinda Gates Foundation, Accenture, the UK Government Defence and Security, the Office of National Statistics, The National Air Traffic Service and Roche. We have also announced a number of project collaborations with businesses, government departments and charities.

We invite you to join us as we grow our capability, supporting our goal to develop the next generation of data science and artificial intelligence, shape the public conversation, and push the boundaries of this new science for the public good.

DATA-CENTRIC ENGINEERING (DCE) – THE NEXT CHAPTER

The Alan Turing Institute and Lloyd's Register Foundation formed a long-term strategic partnership in 2015 to establish DCE as a new academic discipline, to build capacity within it and to deliver impact. This first phase has been achieved. The Turing is now positioning itself for 'DCE 2.0': the second phase of this ambitious programme builds on the foundational research undertaken to date and moves towards a more mission-led research focus that reflects current global priorities for the future of engineering.

The programme will establish new research pillars which will aim to have transformational outputs, accelerating impact and exploring possibilities in innovation, translation and commercialisation. This sits within the Turing's developing Science and Innovation (S&I) Strategy, which sees a greater emphasis on the effective combination of both innovation and research. The Turing S&I Strategy will see the creation of Grand Challenges and targeted missions that will galvanise the community to achieve impact towards collective goals. The research undertaken, and partnerships established so far, have laid the path for the programme to move towards engaging with a broader range of partners and sponsors. The Institute will be working to identify new partners with strategically aligned goals to collaborate on foundational research, research translation, impact, capability building and innovation.

The programme will also be working with learned societies and professional institutions to mainstream data-centric approaches within engineering practice and education and to ensure that engineers are equipped with the right skills, tools, training and support to achieve this. There will also be an increased focus on standards and regulation, particularly to ensure that data science and AI approaches can be deployed to improve engineering safety across domains.

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Cultivating the international relationships established to date, the programme will continue to push forward the global adoption of DCE. As well as expanding and consolidating existing international collaborations, new strategic partnerships and projects will be sought and established globally. The programme is particularly interested in expanding its work with lower-income countries. This will widen the reach and impact of DCE and ensure it is central to driving safer and smarter solutions for global challenges.

DCE has enormous potential to deliver transformative and lasting economic and societal impact. The DCE programme at the Turing, in collaboration with its partners, continues to strive towards using all that the discipline can offer to make the world a safer place.

To find out more about the DCE programme click [here](#).

ROLE PURPOSE

Reporting to the Institute's Chief Scientist, the Programme Director (DCE) will be responsible for driving the delivery of impact (scientific, operational, economic and societal) from the vibrant Turing DCE research portfolio.

DUTIES AND AREAS OF RESPONSIBILITY

The main duties of the role are to:

- Lead the delivery of the next phase of the Institute's DCE Programme, across major priorities including: 1) Translation and pull-through to adoption; 2) Standards & regulation; 3) Skills, training, knowledge exchange and; 4) community building.
- Drive the development of new and exciting DCE-inspired research missions, aligned with Turing Grand Challenges, as these get developed, in collaboration with the Turing's Chief Scientist and other senior Turing scientific staff and researchers including, for example, with the leadership team of the recently announced Turing Research and Innovation Centre for Digital Twins.
- Head up a small team of DCE Theme Leads, to be recruited via open advert, and collaborate with existing DCE group and/or project leaders, so as to maximise impact delivery across domains such as, but not limited to oceans engineering, nuclear engineering and manufacturing engineering, with safety underpinning all three themes.
- Disseminate and champion partnership and programme findings, impacts, outputs and outcomes at industry, research and practitioner conferences, meetings and events.
- Convene with Institute Partners, including Lloyds Register Foundation, to maximise opportunities for translation and exploitation of the algorithms, software, methods, theories and tools developed through the programme.
- Work effectively with the Programme Management directorate to oversee the management of the Programme.
- Grow relationships with current and prospective funders and partners, in a sustainable way, working closely with the Turing Partnerships directorate. The Programme Director is expected to attract significant new funding and partnerships, working with colleagues internally and partners externally.
- Act as a key public face of the Institute, promoting its research and innovation, nationally and internationally, and ensuring that its reputation as the UK's national centre for data science and AI is enhanced.
- Encourage the Institute's and the UK's wider researcher community to work together to make a global impact and engage with wider academic and industrial research sectors.

OTHER DUTIES

- Teaching may be required as part of collaboration work

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.

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PERSON SPECIFICATION		
Skills and Requirements	Essential (E) Desirable (D)	Tested at application (A) Tested at interview (I)
Post holders will be expected to demonstrate the following:		
Education/Qualification		
Record of excellence in an academic, government and/or industrial setting	E	A
Knowledge and Experience		
Proven experience of providing programme and/or project leadership in a senior capacity, ideally in a research environment, be that an academic or commercial arena	E	A
Solid knowledge of the national AI and engineering landscape	E	A/I
Demonstrable ability and vision to take the programme forward but be able to work collaboratively	E	A/I
Self-motivated and impact drive	E	I
Experienced and credible spokesperson for media and other stakeholders on scientific research and innovation issues	E	I
Demonstrable ability to build and develop effective working relationships with partner organisations (academia, commercial, public and third sectors), and working with a diverse set of stakeholders	E	A/I
Experience of line management, and/or matrix management	E	I
Ability to work in uncertainty, and to map out risks/benefits of potential solutions to problems arising	E	I
Track record of securing innovation funding	E	A/I
Evidence of a personal network that crosses research disciplines or domain applications	D	A
An academic background	D	A
Knowledge of the UK higher education sector and/or a strong understanding of current academic and commercial research in data science and AI	D	A
An entrepreneurial spirit and a flair for spotting, creating and seizing opportunities	D	A/I
Communication		
Communicates more complex, specialist or conceptual information clearly and persuasively, presenting compelling arguments to influence and/or negotiate satisfactory outcomes	E	A/I
Clear and effective communication skills, with and to a wide range of people and audiences at all levels (i.e. Academics, Scientists, Research Managers, and Administrators and other Professional services staff)	E	A/I

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Service Delivery		
Actively promotes and defines performance standards for the DCE Programme in support of organisational objectives	E	I
Undertakes regular monitoring and review to ensure that standards are being met	E	I
Decision Making		
Ability to make long term effective strategic decisions relevant to the Programme	E	I
Can support the Institute with high-risk strategic advice	E	I
Analysis and Research		
Ability to communicate, translate and champion partnership and programme findings, for optimal results to relevant stakeholders	E	A/I
Team Development		
Evaluates performance, and deals with any performance issues, identifying appropriate developmental activity, where appropriate, to ensure individuals meet the needs and expectations of their role	D	A/I
Other Requirements		
Commitment to EDI principles and to the Organisation values	E	I

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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

APPLICATION PROCEDURE

If you are interested in this opportunity, please click the apply button below. 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 via email recruitment@turing.ac.uk or call 020 3970 2148.

External secondments are welcome.

If you are currently employed by a University and require secondment to the Alan Turing Institute for the duration of this role as opposed to direct employment, please provide a statement of support from the applicable Head of Department to allow secondment (see Terms and Conditions below) via email

to jatkins@turing.ac.uk. Statement can be submitted up to a week after closing date. This is an administrative requirement only and will not be part of assessment criteria.

INTERVIEW PROCESS

This role will have 2 stage interview process. We are aiming to interview candidates week commencing 12 September 2022.

TERMS AND CONDITIONS

This permanent post is offered either on a full-time basis, or a part-time basis (we require a minimum commitment of 0.8 FTE). The salary on offer is competitive plus excellent benefits, including flexible working and family friendly policies, <https://www.turing.ac.uk/work-turing/why-work-turing/employee-benefits>

If you are seconded from your employer, a secondment agreement will compensate your salary and on-costs, plus VAT if applicable. Payments will be made on a quarterly basis to your employing University.

EQUALITY, DIVERSITY AND INCLUSION

The Alan Turing Institute is committed to creating an environment where diversity is valued, and everyone is treated fairly. In accordance with the Equality Act, we welcome applications from anyone who meets the specific criteria of the post regardless of age, disability, ethnicity, gender reassignment, marital or civil partnership status, pregnancy and maternity, religion or belief, sex and sexual orientation.

We are committed to building a diverse community and would like our leadership team to reflect this. We therefore welcome applications from the broadest spectrum of backgrounds.

Reasonable adjustments to the interview process will be made for any candidates with a disability.

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.