Open Infrastructure Strategy Lead

(Part-time and open to external Secondment)

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 several 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 Turing Institute is at an exciting inflection point and pivotal stage of growth. Led by Chief Scientist Mark Girolami, we are investing in translating research into applied innovation. Open infrastructure is required to facilitate this "innovation pipeline" and must connect and serve needs across all research programmes at the Institute. Initiatives will include – but are not limited to – hosting a trusted research environment to support research projects and Data Study Group collaborative hackathons, training initiatives in data ethics, reproducible research, and open source development, and stakeholder engagement activities to incorporate user needs into AI models, data sets and software tools.

The Tools, Practices and Systems (TPS) programme at the Turing represents a cross-cutting set of initiatives which seek to build open source infrastructure that is accessible to all, and to empower a global, decentralised network of people who connect data with domain experts. The programme seeks to build trustworthy systems, embed transparent reporting practices, promote inclusive interoperable design, maintain ethical integrity, and encourage respectful co-creation. TPS is supported by a volunteer leadership team, whose members represent experts in open infrastructure internal and external to the Turing community.

Research Application Managers (RAMs) at the Turing build and nurture the connections with users of research outputs and bring back the user perspective to researchers and research engineers. The RAM team further the TPS Programme's mission by providing a specialised delivery mechanism that on enhances the adoption of research outputs by the wider stakeholder community. In doing so, we ensure that the research that happens at the Institute leaves a lasting legacy on the national and international data science ecosystem for commercial and public interest technologies alike.

Community managers at the Turing invest in training and empowering a diverse group of researchers, research engineers, programme management, and business team members to build interconnected systems of open source software, datasets and processes. They ensure that the research that happens at the Institute is created to be maintained, sustained, remixed and reused to make research and innovation more efficient and effective across the national and international data science ecosystem for commercial and public interest technologies alike.

The Turing Way is an open source community-driven guide to reproducible, ethical, inclusive and collaborative data science. The project goal is to provide all the information that data scientists in academia, industry, government and the third sector need at the start of their projects to ensure that they are easy to reproduce and reuse at the end.

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We are recruiting an **Open Infrastructure Strategy Lead** who will be responsible for defining and developing the Turing's position in Open Infrastructure nationally and internationally. Their goal is to ensure that the Institute delivers FAIR (findable, accessible, interoperable and reusable) outputs that are greater than the sum of their parts, and scale to be adopted worldwide and beyond the end of their current funding.

ROLE PURPOSE

This is a stand-out opportunity to join a prestigious, national research institute and deliver its impact at an important and exciting time in its development. The Open Infrastructure Strategy Lead will provide advice to the Chief Scientist on how the Turing can benefit from and develop open source infrastructure. They will work closely with the TPS leadership team, TPS Senior Researchers, TPS Programme Manager, and Partnerships Development Lead for TPS. We anticipate that the postholder will need to embody the values of *vision*, *collaboration* and *initiative*, in addition to their commitment to equity and inclusion as described in the Turing's Values (see below).

The Open Infrastructure Strategy Lead will lead the TPS Leadership Team in delivering a strategic vision for open infrastructure for the Turing Institute. They will bring their own connections and vision to this collaborative work. The postholder will be a leader in their field with expertise in collaborative research across data science related disciplines. Topics of interest should include at least 2 of the following domains: open research, free and/or open source software development, computational reproducibility, FAIR data management, user experience design, and public and stakeholder engagement.

This strategy cannot be curated in isolation. The Open Infrastructure Strategy Lead will work with the directors of every Turing Research Programme to understand how their projects would benefit from improved infrastructure and to identify the support that they need in translating outputs into products used in industry, government and the third sector. They will also align the strategy with the efforts of the Research Engineering, Data Wrangling, Skills, Programme Management, and Academic Engagement teams. Their work will be in close collaboration with the Office of the Director and the Office of the Chief Scientist.

Although not required, we hope that the postholder will scope potential partnerships to build the profile of the Tools, Practices and Systems programme, and to embed research outputs in real world applications. These opportunities could build on projects created through the £38 million AI for Science and Government (ASG) investment such as training modules curated by *The Turing Way* community, the Turing's Data Safe Haven, Raphtory dynamic network analysis tool, or the Real-time data assimilation for digital twins (RADDISH) toolkit. Alternatively, they could be collaborative projects building on the success of the Community Management and Research Application Management teams within TPS. The Open Infrastructure Strategy Lead will be well supported by the TPS Senior Researchers, TPS Programme Manager, and Partnerships Development Lead for TPS.

The postholder will work closely Prof Mark Girolami, Chief Scientist, Arielle Bennett, TPS Programme Manager, TPS Senior Researchers, Dr Malvika Sharan and Dr Aida Mehonic, Shane Conneeley, TPS Partnerships Development Lead, and Amit Mulji, Head of the Office of the Director. Prof Mark Girolami will be their line manager.

This post is maternity cover for TPS Programme Director, Dr Kirstie Whitaker, who will be available for handover and knowledge transfer conversations until May 2022. Dr Whitaker plans to return to work in January 2023. There is scope to extend this role as a Deputy Director for TPS, however, this is dependent on the growth of the TPS Programme through 2022.

DUTIES AND AREAS OF RESPONSIBILITY

- Scan the landscape and horizon for crucial pieces of information about national and international priorities in Digital Infrastructure, areas of focus by public sector, private sector and third sector organisations, and innovations in Open Source, FAIR Data, and Trusted Research Environments.
- Identify capabilities across the Turing's community – particularly in the cross cutting programmes of Research Engineering, Public Policy, Data Wrangling, Skills and Academic Engagement. Draw upon the multidisciplinary

nature of Institute and national capabilities across the UK to shape opportunities to add value to collaborative mission-led research and innovation.

- Chair the TPS Leadership Team and work with the group members to develop the overarching research and innovation strategy for Tools, Practices & Systems, identifying areas where the programme could have the largest impact in open infrastructure and collaborative practices. Leadership Team responsibilities include:
    - Work with the Turing Partnerships team, develop proposals for research grants, corporate sponsorship and other funding, and establish scientific collaborations between the TPS Programme and national and international organisations.
    - Work closely with the Tools, Practices and Systems programme leadership - including colleagues in the Partnerships and Programme Management Unit - to shape funding and delivery strategies for the TPS Programme. Set, implement, and regularly review programme objectives and activities, in alignment with the Institute's strategies.
    - Represent the TPS programme at industry, academic and practitioner events and high level meetings and establish closer connections internally at the Turing and with external organisations and communities from their own networks.
- Collaborate with the TPS Senior Researcher responsible for Open Research to advocate for and drive forward adoption of open science tools, practices and systems across the Institute. Set up mechanisms to support the development of open technology standards and embed interoperable practices in research. Engage and establish collaborations with key stakeholders, research engineers and academics working across different projects.
- Collaborate with the TPS Senior Researcher responsible for Research Applications to drive the Institute's efforts to maximise the impact of academic research across the wider ecosystem. Ensure that the outputs of the research process are translated into real-world implementations and that they are used by stakeholders external to Turing.
- Represent the TPS Programme at Turing Programme Director meetings, and Research and Innovation Advisory Committee meetings, and during external conversations with key stakeholders.
- Catalyse connections and collaboration between researchers and data science practitioners across the Institute. This could come in the form of synchronous regular meetings or it could occur asynchronously, for example, through active engagement on distributed communication channels such as Slack and the maintenance of public and private GitHub repositories to documented ongoing work within the projects and Themes.
- Communicate technical topics to colleagues and external partners by preparing and presenting reports, blog posts, organising and delivering presentations, and taking an active role in meetings and discussions. Communications may be synchronous or asynchronous, remote or in person, and must be prepared at the appropriate granularity of detail for the audience.
- Publish - as a lead or co-author - peer-reviewed research articles, open source training curricula, and/or perspective, opinion and commentary articles, as appropriate. This responsibility will be defined to be aligned with the successful candidate's personal career goals, through collaborative discussion when they are in post.
- Contribute to the research aims and challenges of the Tools, Practices and Systems programme, and those of the Turing Institute more broadly. Share the responsibility of embedding our ethical values in research processes and outputs, and promoting equitable and inclusive co-creation of data intensive projects.

Please note that job descriptions cannot be exhaustive, and the post-holder 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 Post holders will be expected to demonstrate the following	**Essential (E)** **Desirable (D)**	**Tested at application(A)** **Tested at interview (I)**
Education/Qualification		
PhD or equivalent level of professional qualifications and/or experience in data science (broadly defined to include mathematics, statistics, computer science pure or applied) or related quantitative discipline	E	A
Knowledge and Experience		
Record of excellence in AI, mathematics, statistics, computer, social science and/or related areas with an emphasis on cross cutting applications, obtained in an academic, government and/or industrial setting	E	A/I
Leadership and strategic vision skills, especially as required in a complex, research-intensive collaboration with academic and/or industry partners	E	A/I
Ability to create and promote a collegiate and collaborative approach to research partnership activities	E	A/I
Able to identify opportunities for research collaborations beyond the applicant's own academic specialty	E	A/I
Previous experience in a similar role	D	A/I
A strong network of contacts across the open source data science ecosystem	D	A/I
Experience of managing and leading a team	D	A/I
Communication		
Communication and advocacy skills, both verbal and written, with the ability to express ideas and concepts clearly and coherently to diverse audiences and to engage in public debate	E	I
Ability to communicate and network across disciplines	E	I
Able to verbally communicate complex and specialist information clearly and persuasively, presenting compelling arguments to influence and/or negotiate outcomes	D	I
Able to explain complicated matters simply, in a written/electronic format, tailoring the format to suit the audience's needs	D	I
Decision Making		
Independently makes long lasting, complex decisions at an operational or strategic level which effects a large part of the department	E	A/I

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Able to make strategic decisions which have a significant impact for the organisation, ensuring processes are robust and decisions are challenged appropriately	E	A/I
Planning and Organising		
Set performance standards and formulates action plans, monitoring and reviewing progress regularly	D	A/I
Undertake medium-term resource planning in-line with department objectives	D	A/I
Initiative and Problem Solving		
Able to resolve complex problems with the personal skills and initiative to achieve the solution	E	A/I
Able to identify solutions that bring wider and longer term benefits for the organisation and potentially external partners	D	A/I
Analysis and Research		
Develop new hypotheses and concepts for testing to expand or extend existing body of knowledge	E	A/I
Challenge the status quo and provide approaches to explore new possibilities or explanations	E	A/I
Ability to bridge both fundamental and applied research	E	A/I
Other Requirements		
Commitment to meeting deadlines	E	I
Flexible attitude towards work	E	I
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.

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 on 020 3862 3565, or email recruitment@turing.ac.uk.

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 tps@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.

CLOSING DATE FOR APPLICATIONS: Sunday 03 April 2022 at 23:59

TERMS AND CONDITIONS

This post is available up to 0.5 FTE. We will consider 0.3 - 0.5 FTE; however, 0.5 FTE is preferred.

This part-time post is offered on a Fixed Term basis until 31 March 2023. Subject to securing additional funding, further extension is also possible.

The full time equivalent annual salary is £67,000-£70,000*,* pro-rated to £33,500-£35,000 at 0.5 FTE. This opportunity is open for both direct employment and secondment from your employer (not limited to the Turing University Partner network).

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

If you are employed directly by The Alan Turing Institute you will be entitled to 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

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 teal 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***.***