

The Alan Turing Institute

Senior Community Manager – Turing Research and Innovation Cluster in Digital Twins (TRIC:DT)

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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 and its partners have invested more than £26m in [digital twin research](#) and innovation across a range of dynamic projects, including developing foundational theory and applications in the engineering, environmental and social sciences. This represents one of the largest and most exciting portfolios of academic digital twin research and innovation in the UK. To build on this activity, we are now establishing a new [Turing Research and Innovation Cluster in Digital Twins](#) (TRIC: DT).

The primary objective of the TRIC: DT will be to **democratise access to digital twin technology by providing open and reproducible computational and social tools freely accessible to the UK research and innovation communities**. This vision will be achieved by establishing knowledge exchange between a central Turing hub and a network of collaborators across the academic and private sectors.

Research and innovation activity will focus on solving significant societal challenges and generating tangible societal benefits in three interrelated research focus areas:

1. **Environment and sustainability:** predicting and mitigating the negative impacts of climate change.
2. **Infrastructure:** enhancing the efficiency and resilience of critical infrastructure (e.g. energy).
3. **Health:** improving human health and wellbeing.

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 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.

We are recruiting a Senior Community Manager to lead on reproducibility, interoperability and communication efforts within the TRIC:DT to ensure access and democratisation of Digital Twin (DT) technology. They will support the curation, documentation and open sharing of concrete, compelling case studies that illustrate the power of DTs and act as exemplars for tool development for wider dissemination and provide nuclei around which we will build a national DT research community. The position holder will embed the expertise and missions of TPS, The Turing Way and broader open source communities into the initiative to enable knowledge exchange across all stakeholders. Their work will ensure that this investment delivers interdisciplinary collaborations and FAIR (findable, accessible, interoperable and reusable) outputs that are greater than the sum of their parts.

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ROLE PURPOSE

The Senior Community Manager will create, nurture and protect the conditions required for successful technical communication across the diverse and distributed teams across projects. We anticipate that the postholder will need to embody core values of *stewardship*, *compassion*, and *collaboration*, in addition to their commitment to equity and inclusion as described in the Turing's Values (see below).

As a steward of their community, the Community Manager will see how individual pieces of work from different teams and three research focus areas (environment, infrastructure and health) fit together as a whole. The postholder will possess the communication, motivation and collaboration skills required to bring the community together to deliver on shared goals of TRIC:DT. They will surface implicit knowledge and make information explicit so that the diverse stakeholders across a broad partner ecosystem can easily to participate.

This position will have a large degree of freedom in building and implementing strategies for guiding team members to see how their individual skills can take the project forwards, identify gaps in team members' expertise, and organise "just in time" training to facilitate communication across the initiative. For example, ensuring that everyone understands - to the extent that they need to in their work – principles and practical aspects of data standards, computational reproducibility, open source project management on GitHub, linting and code review, statistical reporting guidelines, and responsible research and innovation practices.

The TRIC:DT can only achieve - and communicate - its ambitious goals if it is delivered by domain experts working together. The ideal candidate for the TRIC:DT Community Manager will treat all members of the project with compassion. They will support people to share and promote the skills that they already have, understand the experiences of people from a range of diverse backgrounds, and identify what they need to effectively work together. They will identify areas of implicit knowledge and expertise within the TRIC:DT research community and make this information explicit.

We expect that success in the role will require establishing close collaboration with experts and other communities across The Alan Turing Institute and beyond. To enable this, the postholder will join the team of community managers and become an active contributor of *The Turing Way*. Through these connections TRIC:DT Community Manager will act as a bi-directional conduit to implement best practices for reproducible, ethical, inclusive and collaborative data science. We do not expect the applicants to already have all the skills within the scope of *The Turing Way* project. Rather that they will develop new expertise and grow in the role. They will actively engage with the Tools, Practices and Systems community, particularly in the development of responsible research and innovation practices.

The postholders will report to TPS Theme Lead for Trustworthy Systems once they are in post and will work closely with Dr Malvika Sharan, TPS Senior Researcher for Open Research and lead of Community Management Team, Prof Ben Macarthur, Director of TRIC: DT and the Programme Co-Directors in TRIC: DT. They will also need to work closely with Research Application Managers, Research Engineers and Ethics Advisors for TRIC: DT once they are in post.

For further information about TRIC:DT please visit this [website](#).

DUTIES AND AREAS OF RESPONSIBILITY

- Design and implement processes for interdisciplinary collaboration, co-creation and knowledge exchange by fostering a *Community of Practice* working in the TRIC:DT initiative. Embody the principle of being 'as open as possible, as closed as necessary' to maintain the balance between communicating concrete case studies from TRIC:DT and maintaining sensitive data security where necessary.
- In close collaboration with key members of TRIC:DT, support an active, national community of DT practitioners -- TRIC:DT researchers and external stakeholders, seeded around development partners, making use of Turing software. In doing so, ensure principles of good practice, reproducibility, interoperability, and open science are embedded in TRIC:DT research, and technical advances are shared across research focus areas.
- Lead the development of core values and ways of working which are shared, agreed and standardised across all three research focus areas – environment, infrastructure and health of TRIC:DT, including but not limited to maintaining transparency, reproducibility and inclusive collaborative working. In doing so, contribute to the

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overarching goals to empower the widespread use of DTs to deliver national societal and economic benefit.

- Catalyse connections and collaboration between researchers within the TRIC:DT projects. 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 document ongoing work. In collaboration with the TRIC:DT RAMs, integrate feedback from the external user communities on the TRIC:DT processes and infrastructure.
- Be an active community member of *The Turing Way* project. This may include identifying gaps in the current material, writing new content, reviewing existing chapters, giving presentations about the project to new audiences, welcoming members of your own project communities to join *The Turing Way*, and contributing to the design of governance and decision making processes. Our vision is to build an interconnected web of open source communities in applied data science. We expect all community managers within the TPS Programme to attend regular co-working sessions and participate in discussions on research best practices across a project lifecycle.
- Implement practices - as defined in *The Turing Way* - to ensure these team members demonstrate the highest standards of reproducible, ethical, inclusive and collaborative data science in their work. Some - but not all - of these practices include:
 - Onboard and welcome new community members. This will likely include running 1:1 inductions and continuously updating documentation to ensure that resources remain easy to find for new starters and existing team members alike.
 - Design, organise and facilitate innovative, inclusive events - remote and in person - for a broad range of community members and collaborators. These can range from small group focused meetings, through team 'coffee chats' to build community, informal mentorship and training, to collaborative contribution events such as hackathons, documentation sprints, or design scoping workshops.
 - Review code, analysis, visualisation and infrastructure process documentation. Support community members to participate in collaborative review using pull requests (GitHub) or merge requests (GitLab). This will likely require proactive 'just in time' trainings in using version control using git, and project management in public or private GitHub repositories, as appropriate.
 - Promote the sustainable use of research outputs by facilitating high-quality analysis, modelling and reporting documentation, and training materials, in collaboration with researchers, developers and domain experts.
 - Curate and finalise regular newsletter updates to capture impact stories, showcase community member contributions, and share progress for both internal and external audiences.
- 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.

We note that job descriptions cannot be exhaustive, and the postholder may be required to undertake other duties, in response to business requirements and as part of a fast evolving organisation. Additional tasks will be broadly in line with the above key responsibilities, and all changes will be collaboratively defined as part of regular performance review opportunities. 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		
PhD or equivalent level of industry experience.	E	A
Bachelor's degree or a Master's Degree in a discipline which provides a good basis for understanding statistics, data science and programming.	E	A
Knowledge and Experience		
Experience in: <ul style="list-style-type: none"> Basic coding skills in any programming language. Git for version control and Github or GitLab for project management. An understanding of the importance of good practices for producing reliable software and reproducible analyses (e.g. version control, issue tracking, automated testing, package management, literate analysis tools such as Jupyter and Rmarkdown). Experience managing, structuring and analysing research data. 	E	A/I
Experience in: <ul style="list-style-type: none"> Open research, open source software, participatory and community-led co-creation or team science. Contributing to, maintaining and/or leading open source research software projects. 	D	A/I
Knowledge of, or interest in learning about: <ul style="list-style-type: none"> Facilitating research using sensitive health data, or other sensitive data, including an understanding of information governance requirements. 	E	A/I
Track record of: <ul style="list-style-type: none"> Publishing articles, FAIR data sets, and/or open source software libraries for an academic audience. 	E	A/I
Communication		
Outstanding communication skills, both oral and written with the ability to communicate more complex, specialist or conceptual information clearly and persuasively, presenting compelling arguments to influence.	E	A/I
Teamwork and Motivation		
Effective and inclusive teamwork is essential for success in this post. The postholder will be required to lead, oversee and monitor progress of key deliverables and timescales and takes appropriate action to deal with any issues or problems.	E	A/I
Liaison and Networking		
Sets up internal and external networks (in person or virtual) to share information and feedback. Networks with others with shared interests, collaborating on projects and strengthening future relations. Makes use of their researcher profile and credibility to promote the work and image of community project team and/or the organisation.	E	A/I
Project Delivery or Project Management		

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Supports community members by identifying and adapting research processes to meet stakeholders' needs. Takes action to resolve issues and identifies ways of improving processes to avoid repeated challenges.	E	A/I
Decision Making		
Ability to guide others by presenting options and choices to inform their decision making.	D	I
Planning and Organising		
Ensures work is completed in line with the community project team & objectives.	E	I
Initiative and Problem Solving		
Ability to solve complex problems that occur infrequently where guidance, if available, is not specific.	E	I
Analysis and Research		
Gathers data rigorously and conducts robust analysis, and challenges the status quo by questioning assumptions and existing knowledge. Reports findings to wider community and is able to withstand challenge by relying on evidence gathered and processes used for analysis.	E	A/I
Other Requirements		
Commitment to meeting deadlines	E	a/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.

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 them on 020 3970 2148, or email recruitment@turing.ac.uk.

CLOSING DATE FOR APPLICATIONS: 15 January 2023 at 23:59

TERMS AND CONDITIONS

This full time post is offered on a fixed term basis for 36 months. The annual salary is £49,025 - £52,000 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

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.

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 adjustments@turing.ac.uk to find out 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.