The Alan Turing Institute

Senior Community Manager – Early Detection of Neurodegenerative diseases (EDoN)

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 has been awarded a grant by Alzheimer's Research UK (ARUK) to lead the Analytics Hub for the EDoN initiative. Early Detection of Neurodegenerative diseases (EDoN) is the largest initiative in the world that will collect, share and analyse clinical and digital health data to detect diseases like Alzheimer's. Ultimately, this approach would be used by doctors to give an earlier and much more accurate diagnosis of dementia diseases.

The Alan Turing Institute is leading the EDoN Analytics Hub. Our responsibility is to perform the analyses that will allow EDoN to make sense of the data collected in the project. It is composed of data scientists and is responsible for using retrospective and prospective data to develop, validate and refine machine learning "fingerprint" models that can detect the diseases that cause dementia at their earliest stage. The Analytics Hub team will collaborate with members of the Clinical and Digital Hubs to inspire future investigations and to answer questions relevant to the clinical context. The Analytics Hub will work closely with the Coordination team to ensure that EDoN delivers insights that are "more than the sum of their parts".

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 open science and reproducibility within the EDoN Initative who will work to embed the expertise in the TPS, Turing Way and broader open source communities in the EDoN consortium to ensure that this investment delivers FAIR (findable, accessible, interoperable and reusable) outputs that are greater than the sum of their parts.

ROLE PURPOSE

The Senior Community Manager for EDoN will create, nurture and protect the conditions required for successful technical communication across the distributed EDoN team. We anticipate that the postholder will need to embody core values

of *compassion*, *stewardship*, and *collaboration*, in addition to their commitment to equity and inclusion as described in the Turing's "Rules of the Game" (see below).

Reproducibility is multifaceted and can feel difficult to achieve for people with a variety of technical backgrounds. The ideal candidate for EDoN's Senior Community Manager will treat all members of the consortia 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. EDoN can only achieve its ambitious goals if it is delivered by domain experts working together. The postholder will be integral in facilitating new connections and maintaining professional connections between the EDoN hubs.

As a steward of their community, EDoN's Senior Community Manager will see how individual pieces fit together as a whole. They will surface implicit knowledge and make information explicit so that everyone who wants to can participate. They will guide EDoN 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 consortium. For example, ensuring that everyone understands - to the extent that they need to - data standards, computational reproducibility, open source project management on GitHub, linting and code review, statistical reporting guidelines, and responsible research and innovation practices. They will work closely with the EDoN Analytics Hub data wranglers who are using their skills in data import, harmonisation and quality control to prepare a standardised research-ready dataset within a secure research environment (SRE). We are currently investigating data use agreements for multiple cohorts including the National Alzheimer Coordinating Centre (NACC), predictors of COgnitive DECline in attenders of memory clinic (CODEC), and Swedish BioFINDER Study II.

EDoN's Senior Community Manager will collaborate with experts in the Turing community and beyond. 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 be an active contributor to *The Turing Way*, acting as a bi-directional conduit to implement best practices for reproducible, ethical, inclusive and collaborative data science. They will also participate in the Tools, Practices and Systems community, particularly connecting with experts in secure data analysis, community-led data standard development such as the Brain Imaging Data Structure, and the development of responsible research and innovation practices. We expect that success in the role will also require close collaboration with other communities such as the Turing's Health and Medical Sciences Programme, Brain Imaging Data Structure (BIDS), UK Dementia Research Institute, and Deep Dementia Phenotyping Network among others.

The postholder will join a machine learning postdoctoral researcher and two specialised data wranglers in the EDoN Analytics Hub team, along with senior investigators Prof Richard Everson, Dr Ann-Marie Mallon and Dr Kirstie Whitaker. They will work closely with Dr Malvika Sharan, *The Turing Way* community manager, and the EDoN Coordination team led by Dr Rafael Jimenez. We anticipate that the Analytics Hub team will quickly grow and will collaborate with analysts from cohorts contributing to the EDoN initiative. Dr Kirstie Whitaker will be their line manager.

DUTIES AND AREAS OF RESPONSIBILITY

- Design and implement processes to validate and confirm the reproducibility of analyses conducted within the EDoN Analytics Hub. Embody the principle of being 'as open as possible, as closed as necessary' to maintain the balance between sensitive data security and effective collaboration. Lead the development of core values and ways of working which are shared and agreed across all hubs in EDoN, including but not limited to transparency, reproducibility and inclusive collaborative working.
- Demonstrate, internally across the EDoN consortia, and to the broader health data science and open source developer communities, how interdisciplinary teams can work together to deliver reliable, reusable insights to understand complex clinical challenges such as the early detection of dementia.
- Identify and connect people from across EDoN initative and the Turing Institute to deliver analyses that can be trusted as they are developed and built upon after their publication. Tasks that have been identified along this deliver pathway to date are:
    - Collaborate with Analytics Hub data wranglers to communicate data availability to researchers across the EDoN initiative. Support their development of documentation to describe the retrospective and prospective cohorts including describing the metadata, processing that has been applied, and any

information governance requirements associated with specific datasets. Support the Clinical Hub to apply for additional datasets if they are required to answer future clinical questions.

  - Implement version control, integration testing, and continuous integration on for fingerprinting data analyses in collaboration with the Analytics Hub machine learning team. Ensure that all outputs that can be shared according to information governance requirements; for example derived phenotypes and biomarkers, and analysis code are made publicly available under an open source license.
  - Support Analytics Hub data wranglers and members of the Turing Research Engineering Group to establish an EDoN Secure Research Environment (SRE) to provide a platform for reproducible research tools and practices for data analysis.

- Catalyse connections and collaboration between researchers, members of the public and clinicians across the EDoN initiative. This could come in the form of synchronous regular meetings or it 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.
- 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*, and beyond - 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.

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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 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 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: • 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: • 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: • Facilitating research using sensitive health data, or other sensitive data, including an understanding of information governance requirements.	E	A/I
Track record of: • 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. The postholder will routinely be required to communicate more complex, specialist or conceptual information clearly and persuasively, presenting compelling arguments to influence.	E	A/I

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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		
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	A/I
Analysis and Research		
Gathers data rigorously and conducts robust analysis, and challenge 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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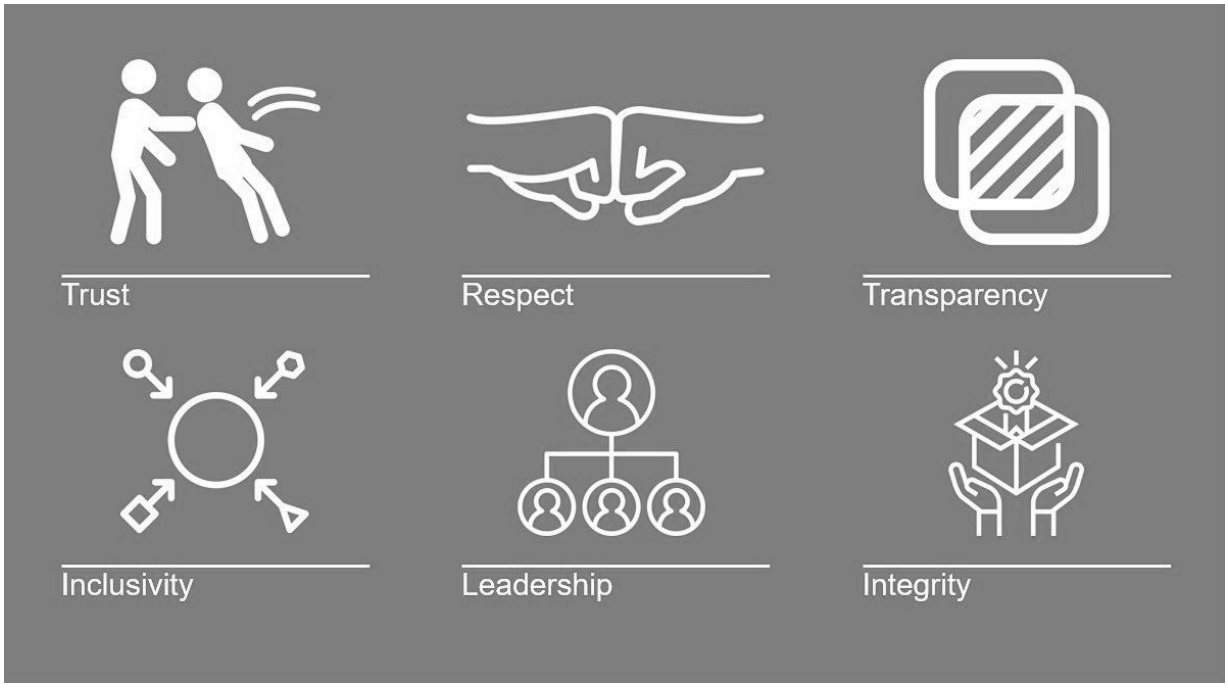
EQUALITY, DIVERSITY AND INCLUSION

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 Rules of the Game



Respect – We treat everyone with respect, dignity and kindness and acknowledge the experiences, skills and contributions of others.
Trust - We communicate openly and honestly to support an environment where we have trust in each other.
Transparency – We seek to ensure that everyone understands the how and the why of our decisions and actions. We take on board to feedback when those decisions are challenged.
Inclusivity – We are committed to continuously learning how to be more inclusive by listening to those facing barriers.
Leadership – We recognise creating an inclusive, diverse and equitable institute requires leadership from all. We stand up and speak out when change is needed.
Integrity – We recognise that how we work is as important as our outputs and seek to exemplify best practice in all our decisions.

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 3862 3575 or 0203 862 3340, or email recruitment@turing.ac.uk.

CLOSING DATE FOR APPLICATIONS: 8th August 2021 at 23.59, depending on the number of applications we reserve the right to close the ad early.

TERMS AND CONDITIONS

This full time post is offered on a fixed term basis for two years. The annual salary is £46,690-£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.

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**.