

The Alan Turing Institute

SENIOR RESEARCH DATA SCIENTIST / RESEARCH SOFTWARE ENGINEER

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 purpose is to make great leaps in data science and AI research to change the world for the better. Its goals are to advance world-class research and apply it to national and global challenges, build skills for the future by contributing to training people across sectors and career stages, and drive an informed public conversation by providing balanced and evidence-based views on data science and AI.

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 300 researchers, a rapidly growing team of in-house research software engineers and data scientists and a business team.

BACKGROUND

The research staff of the Institute's [Research Engineering Group](#) work to realise cutting edge research as professionally usable software tools and to apply these to address real-world data science and modelling challenges.

The Group's staff are research software engineers and research data scientists. We note the considerable overlap between these emerging roles and embrace the breadth of interdisciplinary skills and diversity of approaches entailed in these fields. We are open to candidates with either a Research Data Science or Research Software Engineering background. The successful candidate will be appointed to the role that best aligns with their skills, experience and interests.

ROLE PURPOSE

In contrast to traditional research careers, we are committed expert collaborators, who join research teams to further the Institute's challenges. We collaborate with scholars across the Institute's research community to enhance the applicability of research for particular problems. We work with clients in industry, government and the third sector to turn their data challenges into research questions. We value expertise across many domains, with current members of the Group having backgrounds in psychology, mathematics, digital humanities, and other areas. We rely on this diversity to design tools, practices, and systems to harness the power of data science around the world.

We create software that implements research and use it to analyse client data in a readable, reliable, and reproducible fashion. We present conclusions of research and analysis to the research community and clients through presentations, [research papers](#), [blog posts](#), interactive data visualisations and [open-source software packages](#). We work with state-of-the-art, high-performance computing and cloud platforms to realise collaborators' data science and artificial intelligence research at scale.

Senior team members are responsible for leading and managing the work of the team and interfacing with external PIs and collaborators. They are able to lead efforts in a hands-on manner and mentor others in their work. They have deep technical (algorithmic methods, computational tools etc) expertise in multiple areas and able to force multiply the work of others and collaborate with people outside the team to deliver projects and services that fit within the existing scope of the Institute.

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HOW YOU WILL MAKE AN IMPACT

- Apply state-of-the-art and novel data science and artificial intelligence techniques emerging from the Institute and elsewhere to problems faced by the Turing's clients.
- Collaborate with research colleagues to develop and maintain high-quality, well-tested software embodying research outputs.
- Present, disseminate and explain our work via presentations, reports, and well-documented software packages.
- Contribute to the life of the Institute and support its community:
 - Deliver teaching and training to colleagues and students, including within the team in our regular skills sessions.
 - Support research colleagues to make the most of the Institute's secure high performance computing environments for advanced research.
- Working under clear guidance, is responsible for the delivery of 1-2 research projects or service areas involving one or two additional team members on a routine basis, ensuring successful outcomes, liaising with clients and colleagues to understand and prioritise goals, balancing client value with outputs, and promoting the project or service across the institute.
- Supports a more senior member of the team in scoping new technical projects, making recommendations or suggestions as needed in this process and scoping projects with oversight from the more senior team member.
- Develop new projects and ways of working in conjunction with colleagues, authoring research proposals and agreeing involvement for the group in activities across the institute.
- Ability to mentor and support junior colleagues and provide expert technical support and guidance.

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 Post holders will be expected to demonstrate the following:	Essential (E) Desirable (D)	Tested at application (a) Tested at interview (i)
Knowledge and Experience		
Relevant industry or academic experience (for instance pursuing a PhD) in a field with significant use of both computer programming and advanced statistical or numerical methods.	E	A
Fluency in one or more modern programming languages used in research in data science and artificial intelligence. (We particularly work in R, Python, and modern C++, but demonstrable use of other programming languages for research, together with a facility for learning new languages, is most welcome.)	E	A
An understanding of the importance of good practices for producing reliable software and reproducible analyses, such as version control, issue tracking, automated testing, package management and literate analysis tools such as Jupyter and Rmarkdown.	E	A
Experience delivering technical research engineering work under at least one of the areas in Fundamental Research, Defence and Security, Environment and Sustainability, or a related area in National Resilience.	E	A
Excellent written and verbal communication skills, including experience in the authoring of technical reports or research papers, and giving presentations or leading classes.	E	A/I
Demonstrable experience of managing challenging stakeholder relationships and resolving conflict effectively	E	A/I
Ability to lead one's own work independently, including planning and execution, and to collaborate productively as part of a team.	E	A
Demonstrated enthusiasm and ability to rapidly assimilate new computational and mathematical ideas and techniques on the job and apply them successfully.	E	A
Experience managing, structuring, analysing and visualising research data and the results of computational experiments.	E	A
Evidence of the ability to coach/mentor others or act as "buddy" providing advice, guidance, and feedback to help team members work more effectively.	E	A/I
Experience mentoring and evaluating the work of others. (Formal line management experience is not essential, but such applicants should be able to show significant evidence of informal mentorship.)	D	A/I
Experience of navigating differing perspectives within their area of responsibility, balancing trade-offs and considering the wider impact of decisions on the team.	D	I
Basic knowledge of methods and algorithms used in data science.	D	A
Other requirements		
Commitment to EDI principles and to the Organisation values	E	I

ADDITIONAL DESIRABLE EXPERIENCE

The Research Engineering Group is a learning team, and actively encourages its members to develop their skills so that they can apply new techniques and approaches across their projects. A commitment to developing new expertise is therefore very desirable to us. In addition to the technical skills you already have, we will look for evidence of a commitment to learn by looking at new skills you have developed in previous roles, and your interest and plans for acquiring future skillsets.

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We note that not all skills useful to us will fall into the categories of data science and software engineering. Experience in teaching and training, building open-source communities, scientific computing, knowledge of public cloud or high-performance computing platforms, or other areas, are also very welcome. If you feel that your skillset and experience would support the Group's activities, we strongly encourage you to apply. Please refer to our [FAQ page for further information](#). If your query is not addressed there, please contact us at recruitment@turing.ac.uk

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 (maximum 3 pages) and a cover letter (maximum 2 pages) as PDF documents. Your cover letter should focus on the following:

- Your past experience working with code and/or data
- Why you would like to become part of the Research Engineering Group
- How your skillset would complement the activities of the team.
- Demonstrable experience of managing challenging stakeholder relationships and resolving conflict effectively
- Evidence of the ability to coach/mentor others or act as “buddy” providing advice, guidance, and feedback to help team members work more effectively.

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 permanent basis. The annual salary range is £57,000 - £69,000, depending on experience. This offer includes excellent benefits package including private medical insurance, 10% employer pension contribution, flexible hybrid working and family friendly policies – [click here for details](#).

EQUALITY, DIVERSITY AND INCLUSION

The Alan Turing Institute is committed to creating an environment where diversity is valued and everyone is treated fairly. 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 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.

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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