The Alan Turing Institute

DATA SCIENTIST – ARC

THE ALAN TURING INSTITUTE

The Alan Turing Institute is the UK's national institute for AI and data science. We are named in honour of Alan Turing, whose pioneering work in mathematics, engineering and computing helped shape the development of modern AI and remains an enduring example of how technical innovation can serve the national interest.

Our mission is to secure the UK's resilience for the age of AI. We do this by bringing together expertise from across the country to protect critical systems against disruption, counter AI-enabled threats and shape UK strategic AI capability.

This is an exciting time to join us as we enter a new phase, with new leadership and a strategy focused on strengthening the nation's resilience and shaping a better future.

BACKGROUND

The Institute's Defence & National Security (D&NS) programme exists to ensure a safe, secure and prosperous society by giving the UK's defence and security communities access to the very best of academic data science and AI. The Applied Research Centre (ARC) is a team within D&NS that works at the boundary between research and application: we take partners' data challenges, turn them into research questions, and establish whether cutting-edge techniques hold up on real problems.

ARC works with partners from across UK Government, applying cutting-edge research from Deep Learning and related fields to partner problems in a readable, reliable and reproducible fashion. We present conclusions of research and analysis to the research community and partners through presentations, research papers and demonstrations.

ROLE PURPOSE

ARC Data Scientists understand the latest breakthroughs in Deep Learning and AI, and work to apply them to Defence and Security challenges. Data Scientists perform investigations based on requirements from D&S partners to derisk new techniques or technologies and create proof-of-concept work to inform future research. Investigations often involve understanding whether a new approach is suitable for a particular problem, how academic research performs when applied in real-world situations, and what the potential drawbacks of adopting a new technology are.

ARC projects span a variety of data types, including text, image, audio, and graph, and have aims ranging from recommending solutions for a problem faced by a specific team, to informing best practices for common challenges faced by data scientists across the D&NS community.

Team members are not expected to, and often will not, have prior experience in the project areas. Rather, ARC Data Scientists are experienced researchers with a strong understanding of common fundamentals and an ability to rapidly assimilate new domains and topics.

Projects usually last between 3-6 months and are exploratory, with a high-risk of "failure". The outputs are generally Proof of Concept code and technical write-ups. Data Scientists work with other ARC members or in collaboration with other groups and Partner data scientists.

20% time is provided to allow Data Scientists to keep their Deep Learning, AI, and programming skills and knowledge up to date. Previous knowledge of Defence and Security is not required, and Data Scientists are given the opportunity to learn about D&S challenges through meetings and discussions with Partners.

Eligibility for Security Check (SC) clearance is a requirement for this role. Eligibility criteria and further information on the process can be found on the UK Government security vetting website.

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HOW YOU WILL MAKE AN IMPACT

- Understand the problems of the Turing's partners and develop appropriate approaches to solving them.
- Apply state-of-the-art Deep Learning and data science techniques emerging from the Institute, broader academia and industry to problems faced by ARC partners.
- Perform rigorous investigations into new algorithms and applications, providing feedback that informs partner decisions and producing high-quality proof-of-concept outputs.
- Design and carry out rigorous experimentation and development with some guidance from Senior and Principal staff.
- Present, disseminate and explain our work: documenting capabilities, processes and systems for reuse across domains; presenting at Turing events, reading groups, conferences and to partner stakeholders; publishing, supporting and maintaining research and prototype software.
- Work at pace in a highly collaborative environment, using industry-standard tooling for testing, version control and collaboration.
- Contribute to a culture of technical excellence within the Institute, for example by leading sessions for internal reading groups.

YOU'LL THRIVE IN THIS ROLE IF YOU

- Are motivated by finding out **whether a technique actually works on a real problem**, and by giving UK defence and national security a straight answer either way.
- Can **pick up a new domain or data modality quickly** and get to a more than superficial understanding of a new algorithmic idea in weeks, not months.
- Are comfortable with **exploratory, high-risk work**: a negative result that is rigorously established is a good outcome.
- Measure success by **whether a partner can act on your write-up,** not by how novel the method was.

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)**
Experience in a field with significant use of both computer programming and advanced statistical or numerical methods (PhD or equivalent professional experience), with practical experience of, or demonstrable interest in, Deep Learning and AI.	E	A/I
Fluency in Python or another modern research language, and good research software practice: version control, automated testing, package management, issue tracking and literate analysis tools such as Jupyter.	E	A/I
Experience managing, structuring, analysing and visualising research data and the parameters and results of computational experiments and producing clear reports of the findings.	E	A/I
Demonstrated ability to rapidly assimilate new computational and algorithmic ideas on the job, at a more than superficial level, and apply them successfully in an unfamiliar domain.	E	A/I
Ability to lead one's own work independently, including planning and execution, whilst working effectively with collaborators and stakeholders in person and remotely.	E	A/I
Excellent written and verbal communication: authoring research papers or technical reports, presenting on technical subjects, and articulating whether findings address stakeholder requirements.	E	A/I
Experience working with customers to identify, understand and refine problems, and scoping data science work to solve them.	D	A/I
Experience using AI tooling to assist with coding, research and other tasks, with a view of where current tooling is effective and where it falls short.	D	A/I
Eligible to obtain and hold Security Check (SC) clearance.	E	A

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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, no photo) and covering letter (maximum 1 page, excluding security information below) telling us:

- Why you would like to become part of the Applied Research Centre
- How your skillset would complement the activities of the team.

As these roles may require Security Check (SC) clearance, you are required to include the following information as part of your cover letter:

- Confirmation that you have been residing in the UK for the past 5 years (if you haven't, please provide details of when and where you resided and the reason)

Please note, if these details are not provided, we will be unable to progress with your application.

If you wish to share links to blog posts, public code repositories or research papers containing work that you have made significant contribution to, please add a link to those in your cover letter. For questions about the role or recruitment process, or if you would like to apply in a different format, please contact us at recruitment@turing.ac.uk.

SECURITY CLEARANCE

The successful candidate may be required to undergo a pre-screening check prior to an offer being made. This check will be carried out by HMG Defence and Security Partners. Please be advised, by submitting your application you are consenting to this check, and your personal details (full name, date of birth and home address) to be passed onto our HMG Defence and Security Partners to carry out this check.

Many roles in the Defence and National Security Programme require higher levels of National Security Vetting where applicants must typically have 5 to 10 years of continuous residency in the UK or a NATO country depending on the vetting level required for the role, to allow for meaningful security vetting checks, amongst other factors. These roles are subject to security restrictions by Turing'separtners.eTheerestrictionsemeanethatefactorsesucheaseyourenationality,eanyenationalitieseyou may have previously held, your foreign connections, and your place of birth can restrict your eligibility to perform the role.

Eligibility criteria and further information on the process can be found on the UK Government security vetting website: National security vetting: clearance levels - GOV.UK (www.gov.uk). Applicants should check whether they are eligible to apply for SC clearance before applying to this role.

TERMS AND CONDITIONS

This full-time post is offered on a permanent basis. The annual salary is £46,415 - £52,494 plus excellent benefits, including flexible working and family friendly policies Employee-only benefits guide | The Alan Turing.

The Alan Turing Institute is based at the British Library, in the heart of London's Knowledge Quarter. We offer a flexible, hybrid approach to working, recognising the benefits of both remote working and in-person collaboration. Office attendance expectations may vary depending on the role, team and organisational needs, and may evolve over time. The hiring team will be happy to discuss the current arrangements during the interview process.

Successful candidates joining the ARC team will be expected to work from the office for a minimum of one day per week.

INTERVIEW PROCESS

We operate a two-stage process. Candidates who pass the application sift will be invited to a first interview, held remotely. This is a structured conversation rather than a technical test: we will ask open questions about your research experience and approach to problems. We are looking for evidence of the fundamentals and the ability to assimilate new material, not necessarily prior Defence and Security experience.

Successful candidates will be invited to a second interview, usually held about one week later and in person at the Institute's offices in London. This focusses on the competencies in the person specification and includes a scenario-based discussion. No preparation is needed beyond the job description.

EQUALITY, DIVERSITY AND INCLUSION

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 advise us 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.

