Research Associate, Applied Research Group

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 Defence & Security (D&S) programme at the Turing is looking to expand its Applied Research Group (ARG), working on real-world cyber security and machine learning problems for defence and national security stakeholders.

As a team, ARG aims to apply innovative research to real-world problems. We use research papers and code repositories to implement the latest developments in machine learning to pressing real-world problem sets, outputting feasibility studies, code repositories and supporting documentation. Projects vary in scale, from literature reviews to early-stage research engineering and longer-term proofs-of-concepts. Day-to-day, ARG collaborate closely with partners' technical and subject matter experts as well as academics from across the Turing's research community.

We are looking to hire a Research Associate to develop a unique applied research portfolio and manage partner engagement alongside ARG's Theme Lead. ARG is a cross-disciplinary team – therefore able to respond to a wide variety of problem sets – and encourage applications from both generalists and specialists including those who self-identify as statisticians, software engineers, machine learning practitioners, data scientists or data engineers.

The team practices an agile, experiment-driven approach and values a positive, supportive, and collaborative environment in which 'radical candour' and 'lifelong learning' are encouraged. We embrace failure as a learning opportunity and necessary precursor to success. We are empowered to take ownership of our work and operate with a high level of autonomy in our roles to deliver measurable impact to our partners.

DUTIES AND AREAS OF RESPONSIBILITY

Successful candidates will:

- Develop, implement, and adapt state-of-the-art and novel data science and machine learning techniques to problems faced by the Institute's partners.
- Work at pace on short-term (6-8 week) projects that aim to test the feasibility of turning academic literature into real-world capability.
- Lead independently on iterative project development and delivery cycles with ARG's defence and national security partners.
- Lead frequent partner engagements (in-person at partner sites and virtually) to present on technical findings and give pilot-scale demonstrations.
- Contribute to a culture of technical excellence within the Institute, for example by leading sessions for internal reading groups and seminars.

- Where appropriate, present your research findings within the broader Defence and Security grand challenge at the Institute to aid knowledge sharing between groups.
- Ensure compliance with secure handling of data and health and safety in all aspects of work.
- Support the development and scale of a unique applied research group within the Institute.

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.

The Alan Turing Institute

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		
Research Associate Level: PhD or an equivalent qualification/experience in cyber security, machine learning computer science, data science, mathematics, statistics, electrical and electronic engineering, or a related discipline.	**E**	**A**
Research Assistant Level: A master's degree or equivalent level of professional experience in quantitative sciences, social science, or a related discipline.	**E**	**A**
Knowledge and Experience		
General cybersecurity or machine learning knowledge.	**E**	**A/I**
Demonstrated ability to initiate, develop and deliver high quality applied research of maximum value to core partners.	**E**	**A/I**
Experience of participating in or leading research within teams.	**E**	**A/I**
Experience in technically collaborating with experts across teams and domains.	**E**	**I**
Experience in organising working time, taking initiative, and carrying out research independently.	**E**	**I**
Experience in some of the following languages: Python, C, C++, C#, SQL, JavaScript, HTML, Java, Kotlin, Rust, Go.	**E**	**A/I**
Experience developing software in a scientific computing context, ideally in Python, including familiarity with packages like Pandas, Numpy and PyTorch/TensorFlow, and working with HPCs.	**E**	**A/I**
Experience in development suites, systems, and versioning products (e.g., Git, IDEs, Linux).	**E**	**A/I**
Communication		
Excellent written and verbal communication skills, including experience in the visual representation of quantitative data, the authoring of research papers or technical reports, and giving presentations or classes on technical subjects.	**E**	**I**
Ability to communicate more complex, specialist or conceptual information clearly and persuasively, presenting compelling arguments to influence and/or negotiate satisfactory outcomes.	**E**	**I**
Project Management & Project Delivery		
Proactive approach to managing stakeholders, including clearly understanding their requirements and identifying opportunities for collaboration.	**E**	**I**
Adapts services and systems to meet stakeholders' needs and identifies ways of improving standards.	**E**	**I**

Decision Making		
Ability to make independent decisions which are low risk and that mainly affect themselves or a small number of people and are guided by regulation and practice.	**D**	**I**
Work with others to make collaborative decisions that may be operational or strategic and impact immediate team or work area.	**D**	**I**
Initiative and Problem Solving		
Uses judgement to analyse and solve problems and take action to prevent recurrence of problems.	**E**	**I**
Analysis and Research		
An ability to formulate pertinent research questions, both general and focused.	**E**	**I**
Ability to identify or design computational and statistical analysis approaches to address specific research questions.	**E**	**I**
Other Requirements		
Commitment to EDI principles and to the Organisation values	**E**	**I**
A willingness to undergo SC clearance upon successful appointment (if not already held) with the DV process likely to follow	**E**	**A**

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 (maximum 2 pages, no photo) and covering letter (maximum 1 page) telling us:

- An example of a technical research project, preferably in the data science/machine learning space, that you have worked on recently.
- Why would you like to work for The Alan Turing Institute?

As this role brings a requirement of attaining SC – with the likelihood of then progressing to Developed Vetting (DV), you are required to include the following information as part of your cover letter:

- Your current nationality,
- Your nationality at birth,
- Other nationality (include dual nationality if applicable), and
- Confirmation that you have been residing in the UK for the past 5 years (if you have not, please provide details of when and where you resided and the reason).

If you have questions about the role or would like to apply using a different format, please contact us at recruitment@turing.ac.uk.

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

CLOSING DATE FOR APPLICATIONS: SUNDAY 28 APRIL 2024 AT 23:59 (LONDON, UK BST)
We reserve the right to close this vacancy early or to interview suitable candidates before the closing date if enough applications are received.

TERMS AND CONDITIONS

This full-time post is offered on a fixed term basis till 30 April 2025. The annual salary is £42,893 - £48,510 plus excellent benefits, including flexible working and family friendly policies, https://www.turing.ac.uk/work-turing/why-work-turing/employee-benefits.

Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant at a salary of £40,148 per annum.

Successful candidates will need to hold SC or be willing to undertake the process once in-post, with the possibility of upgrading to DV in the near future. Eligibility criteria and further information on the process can be found on the UK Government security vetting website.

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.