

The Alan Turing Institute

Research Associate, Trustworthy digital infrastructure for Identity Systems

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

This role sits within the Defence and Security Programme at the Institute and the particular project this role will be involved in is the Trustworthy Digital Infrastructure for Identity project. This role works closely with the Principal Investigators on this project, the Technical Development Manager and other PDRA s and programme management staff on the team.

ROLE PURPOSE

The provision of digital infrastructure such as foundational identity systems is an emerging requirement in many modern societies across the developed and developing world. New techniques for deployment at scale promise to improve the assurance of users' rights to access various digital and physical resources, vastly more easily, cheaply and quickly. However, systems come with strong security requirements, including confidentiality and integrity. Moreover, protecting citizens' rights when such systems are deployed requires the development of novel and appropriate socio-technical interventions. We are seeking candidates for a research position involving threat analysis, including security and privacy, of National Digital Identity Systems. The candidate will also be expected to red team designs, architectures and implementations of Digital Identity

DUTIES AND AREAS OF RESPONSIBILITY

The post holder will work closely with the principal investigators and research associates based at Turing Institute to:

- To take initiatives in the planning and execution of research
- To identify and develop suitable techniques, and apparatus, for the development and implementation of the existing programmes
- To conduct data analysis
- To ensure the validity and reliability of data at all times
- To maintain accurate and complete records of all findings
- To undertake any training and or professional development
- To prepare material for presentation in oral and poster formats
- To draft publications and prepare them for submission to refereed journals

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- To write and publish articles in peer-reviewed journals/digests that highlight findings from research ensuring consistency with the highest standards of academic publication and showcasing the Institute's research leadership
- To contribute to writing bids for research grants
- To provide guidance to staff and students
- To supervise practical work and advise students on techniques
- To take responsibility for organising resources and effective decision making in support of research
- To attend relevant workshops and conferences as necessary
- To develop contacts and research collaborations within the Institute and the wider community
- Teaching and related activities may be required as part of collaboration work

OTHER DUTIES

- To work in close co-operation with the principal investigator and collaborators on the project
- To provide regular updates on progress to the team
- To undertake appropriate administration tasks
- Support the Principal Investigator and research group in the design and development of the research programme.
- Teaching may be required as part of collaboration work

Please note that job descriptions cannot be exhaustive, and the post-holder 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	Essential (E) Desirable (D)	Tested at application(A) Tested at interview (I)
Post holders will be expected to demonstrate the following		
Education/Qualification		
Research Associate level: PhD in a cybersecurity or related subject (e.g. computer science, management science, mathematics or related discipline) or equivalent skills and experience through non-academic routes.	E	A
Research Assistant level: Near completion of a PhD in a cybersecurity or related subject (e.g. computer science, management science, mathematics or related discipline) or equivalent level of experience.	E	A
Knowledge and Experience		
Ability in cybersecurity analysis and threat modelling.	E	A, I
Experience of cybersecurity threat identification and assessment in applied settings. <i>This may have been gained in commercial or industrial settings as well as through production of academic papers</i>	E	A, I
Evidence of an excellent publication record, commensurate with level of experience. <i>Candidates from outside academia may be able to evidence this by providing examples of technical writing or system design and implementation, published or distributed through channels other than academic conferences and journals, e.g., blog posts and/or software repositories.</i>	E	A, I
Good knowledge of behavioural aspects of cybersecurity.	D	A, I
Knowledge in the exploitation of weaknesses in the application of biometrics, including the detection of synthetic or tampered biometrics.	D	A, I
Knowledge of biometric quality measurement and uniqueness in various age groups, ethnicity, gender and disabilities.	D	A, I
Understanding of statistics or data science	D	A, I
Communication		
Ability to communicate clearly, in both written and spoken forms.	E	A,I
Other language skills may be an asset.	D	A&I
Liaison and Networking		
Experience of working independently and in medium to large-scale teams, on collaborative and interdisciplinary research projects with academic and industrial partners.	E	A,I
Experience dealing with users in the real world.	E	A,I

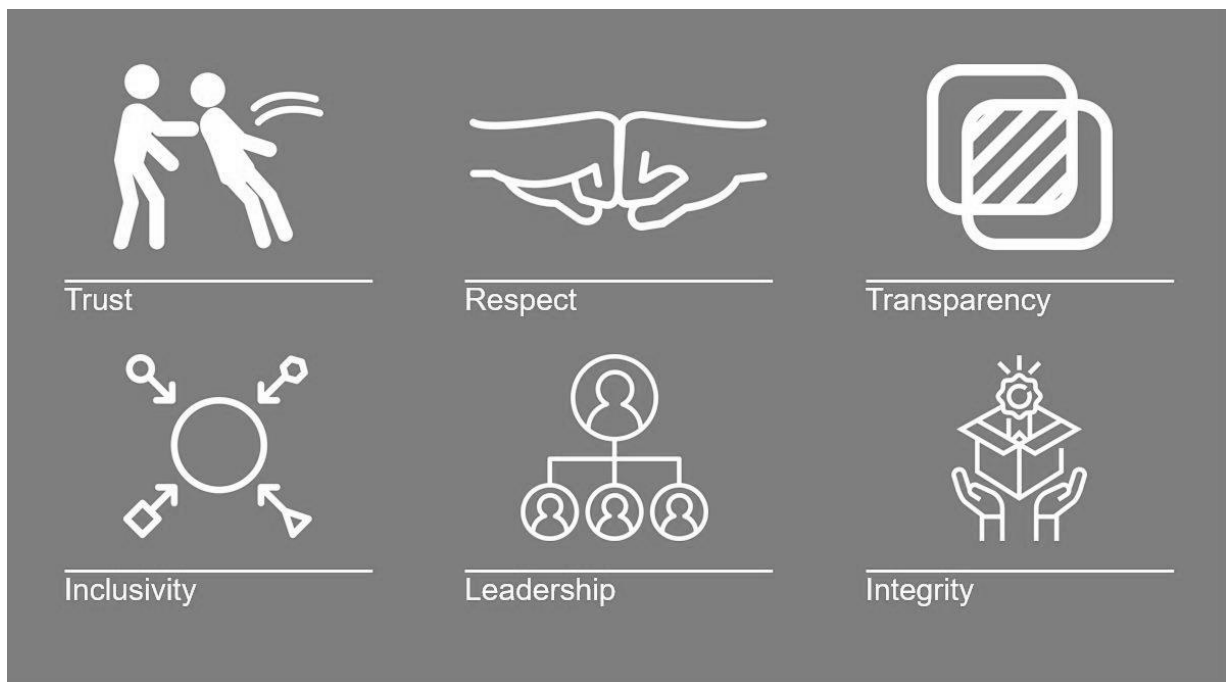
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Decision Making		
Ability to lead own work Independently, and make independent decisions which are low risk and that mainly affect themselves or a small number of people and are guided by regulation and practice	E	A&I
Recommend and advise on available options for decisions that affect operational processes, taking into account any risks.	E	A&I
Initiative and Problem Solving		
Creative approach to problem solving	D	A/I
Analysis and Research		
Ability to plan and implement rigorous analysis plans.	E	I
Identify and use a range of standard sources to gather and analyse routine data and produce reports that can be interpreted by others.	E	I
Understand when additional data is required and identifies appropriate sources. Produces reports that identify key issues and findings.	E	I
Teaching and Learning		
Ability to deliver routine lectures or training on a regular basis where content is standard or provided by someone else. Assesses learners' progress and provides feedback during the event.	D	I
Other Requirements		
Commitment to meeting deadlines	E	A
Commitment to EDI principles and to the Organisation values	E	I
Flexible attitude towards work	E	I
The post holder may be required to travel within the UK and internationally.	D	A

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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 [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 us 0203 862 3340, or email recruitment@turing.ac.uk.

CLOSING DATE FOR APPLICATIONS: 03 August 2021 at 23:59.

TERMS AND CONDITIONS

This full time post is offered on fixed term basis for 2 years. The annual salary for this role is £37,000-£42,000 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 within the salary range £34,500 per annum.

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.

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.