

The Alan Turing Institute

Research Associate, Cyber Security Threat Analysis of 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 for 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 to various digital and physical resources, in a cost effective and efficient manner. However, protecting citizens' rights when such systems are deployed requires the development of novel and appropriate socio-technical interventions that incorporate robust security and privacy measures.

We are seeking a candidate for a research position involving the security analysis of identity systems. The successful candidate will be able to analyse systems to identify and mitigate cybersecurity risks. You should be familiar with threat modelling and analysis techniques and the development of appropriate defence strategies.

You will collaborate with a small specialist team investigating areas pertinent to establishing trustworthiness within digital identity infrastructure. You will report to a senior principal investigator who will support your efforts throughout the project. For more project background go to the project webpage <https://www.turing.ac.uk/research/research-projects/trustworthy-digital-infrastructure-identity-systems>.

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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 and 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
- 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 take responsibility for organising resources and effective decision making in support of research
- Teaching and related activities may be required as part of collaboration work. This may involve supervising practical work and advise students on techniques

OTHER DUTIES

- Support the Principal Investigator and research group in the design and development of the research programme.
- To attend relevant workshops and conferences as necessary

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)	Tested at application (a)
Post holders will be expected to demonstrate the following	Desirable (D)	Tested at interview (i)
Education/Qualification		
Research Associate level: A PhD degree or equivalent professional experience in a cyber security related subject (e.g. cybersecurity, computer science, mathematics or related discipline).	E	A
Research Assistant level: Near completion of a PhD in the above discipline.	E	A
Knowledge and Experience		
Have experience of cyber security threat analysis and management in applied settings. This may have been gained in commercial or industrial environments as well as through production of academic papers.	E	A, I
Ability in mathematical or quantitative methods	E	A, I
Evidence of an excellent publication record, commensurate with level of experience. 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.	E	A, I
Experience of working independently and in medium to large-scale teams, on collaborative and interdisciplinary research projects with academic and industrial partners. Dealing with users in the real world will be very important.	E	A, I
Communication		
Good effective communication (oral and written) and the ability to adapt the style of communication to the audience and ensures understanding.	E	I
Teamwork and Motivation		
Ability to work effectively across disciplinary boundaries, both as part of an interdisciplinary team and in close collaboration with external partners in different disciplines.	E	A
Ability to develop contacts and research collaborations within the Institute and the wider community	E	I
Project Management & Project Delivery		
Proactive approach to managing stakeholders and their requirements and identifying opportunities for collaboration	E	A, I
Adapt services and systems to meet stakeholders' needs and identify ways of improving standards. Learns from issues and takes action to resolve them.	E	A, I

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Initiative and Problem Solving		
Uses judgement to analyse and solve problems, and take action to prevent recurrence of problems.	E	A, I
The ability to initiate, plan, organise, prioritise tasks to meet deadlines and maintaining a high standard of accuracy and attention to detail.	E	A, I
Creatively solve problems, working both independently and with other team members	E	I
Analysis and Research		
Ability to carry out original research and to produce published research papers.	E	A
A developing track record in producing high quality academic publications. Ability to write research reports and papers in styles accessible to both academic and lay audiences.	E	A, I
To take the lead on writing up findings as they emerge, producing reports, and developing publications in peer reviewed journals, in collaboration with the research team.	D	A, I
Other Requirements		
Commitment to meeting deadlines	E	I
Flexible attitude towards work	E	I
Commitment to EDI principles and to the Organisation values	E	I
The post holder may be required to travel within the UK and internationally.	D	I

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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

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 on 020 3970 2148 or 0203 862 3340, or email recruitment@turing.ac.uk.

TERMS AND CONDITIONS

This full-time post is offered on a fixed term basis for 2 years. The annual salary range 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 at a salary of £34,510 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.