The Alan Turing Institute

RESEARCH ENGINEER - AI FOR CYBERSECURITY (OFFENSIVE SECURITY UNIT)

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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

Operating as part of our Defence & National Security team, our work depends not just on new ideas, but on strong experimental practice, rigorous implementation, and high-quality prototyping.

The Offensive Security Unit (OSU) forms part of the Government's wider Laboratory for AI Security Research initiative, which brings together academia, industry, and government to advance UK leadership in AI security research.
Without truly understanding the future of cyber-attacks we are limited in our ability to defend. OSU will be a dedicated team that will identify, design and assess new AI-enabled offensive techniques. The goal of this group is to keep abreast of the "art of the possible" and pre-empt the emergence of new offensive capability under the direction of the Turing's Director of Science and Innovation for Defence and National Security and in close collaboration with our Government partners.

ROLE PURPOSE

As a Research Engineer in the Offensive Security Unit, you will build and run the systems, tooling, and environments that turn research ideas into reliable, repeatable evidence.

This work spans from build to experimentation. At one end, you will stand up realistic test environments, engineer evaluation harnesses, and construct reliable tooling around modern AI components. At the other, you will work alongside researchers to shape experimentation, helping define what reliable evidence looks like. This split isn't predetermined and will be led by your strengths as well as the research direction.

Outputs may include prototype implementations, testing environments, reproducible evaluations, experimental designs, technical reports, demonstrations, and briefings for government partners. All work will be conducted within appropriate legal, ethical, and governance frameworks.

The role sits at the intersection of offensive security, applied AI, and software engineering. We are particularly interested in candidates with an engineering mindset and a background in cyber who want to harness modern AI techniques. Deep machine-learning expertise is welcome but not required; what matters most is strong engineering judgement, experimental rigour, and the ability to build technical fluency quickly.

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Eligibility for DV clearance is an essential requirement for this role. Eligibility criteria and further information on the process can be found on the UK Government security vetting website. Please note that we require you to provide essential information in your cover letter in order to progress your application.

Details of this are in the Application Procedure section. Please note, if these details are not provided, we will be unable to progress with your application for this role.

HOW YOU'LL MAKE AN IMPACT

- Develop prototypes, tools, infrastructure, and evaluation harnesses with Researchers and other Research Engineers.
- Stand up and maintain the realistic test environments and ranges that allow offensive techniques to be run safely and meaningfully.
- Build and maintain reproducible implementations that support rigorous evaluation of AI-altered attack surfaces, including discovery, chaining, automation, or amplification of cyber techniques.
- Contribute to the design and running of controlled experiments by advising on feasibility, instrumentation, measurement, and implementation quality.
- Produce clear technical evidence through reports, demonstrations, and briefings.
- Work closely with government and technical stakeholders to ensure research remains grounded, relevant, and actionable.

YOU'LL THRIVE IN THIS ROLE IF YOU

- Have strong instincts for **technical implementation** and are curious about how systems can be built, probed, stressed, and evaluated.
- Are energised by anticipating where offensive capability is heading, and by building the tools, environments, and experiments needed to understand it.
- Enjoy turning ideas into **working prototypes and concrete evidence**.
- Are comfortable working **in ambiguous problem spaces** where the right questions are not always obvious
- Are motivated by producing work that has **real operational relevance and impact**
- Like collaborating across disciplines, particularly with researchers and domain experts
- Communicate clearly with both technical and non-technical audiences

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		
Strong software engineering fundamentals: testing, version control, reproducibility, experiment tracking, clean design and collaborative practices	E	A/I
Practical systems and networking skills: able to design, build, and segment virtualised or containerised environments (VMs, containers, virtual networks) to a sound and reproducible standard, including configuring firewalling, routing, and isolation between hosts.	E	A/I
Familiarity with modern AI methods (e.g. large language models, deep learning, agent-based systems) sufficient to reason about how they create or alter attack surfaces, with a clear appetite to deepen this expertise on the job.	E	A/I
Ability to lead your work independently and collaborate productively as part of a team	E	A/I
Track record of clear technical communication to both technical and non-technical audiences (reports, demonstrations, briefings).	E	A/I
Working understanding of offensive security or adversarial research, such as penetration testing, red teaming, vulnerability research, exploit development, fuzzing, malware analysis, or security evaluation.	D	A/I
A record of relevant output — tooling, a vulnerability-disclosure / CTF track record, publications, or technical reports.	D	A/I

APPLICATION PROCEDURE

If you are interested in this opportunity you will need to register on the careers 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 at recruitment@turing.ac.uk

As this role requires eligibility for Developed Vetting (DV) clearance, it is an essential part of the application process that you include the following information as part of your cover letter:

- Your current nationality
- Your nationality at birth
- Other nationality (include dual nationality if applicable)
- Confirmation that you have been residing in the UK for the past 10 years (if you haven't, please provide details of when and where you resided and the reason)
- Country where you were born.
- County in which you were born.
- Town where you were born.

Please note, if these details are not provided, we will be unable to progress with your application for this role. CLOSING DATE FOR APPLICATIONS: Sunday 28 June 2026 23:59 (LONDON, UK, BST)

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TERMS AND CONDITIONS

This full-time post is offered on a two-year fixed term basis. The annual salary is £45,505 - £51,465 plus excellent benefits, including flexible working and family friendly policies, Employee-only benefits guide | The Alan Turing Institute

The Alan Turing Institute is based at the British Library, in the heart of London's Knowledge Quarter. We expect staff to come to our office at least 4 days per month. Some roles may require more days in the office; the hiring manager will be able to confirm this during the interview.

SECURITY CLEARANCE

Eligibility for Developed Vetting (DV) 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. Applicants should check if they are eligible for DV clearance before applying to this role.

The successful candidate will be required to undergo a pre-screening check. 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 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's partners. The restrictions mean that factors such as your nationality, any nationalities you may have previously held, your foreign connections, and your place of birth can restrict your eligibility to perform the role.

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.