

The Alan Turing Institute

SENIOR APPLIED ENGINEER

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 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

The Institute's Defence & National Security programme builds capability that gets used, not just published. We are creating a new Applied Engineering team to add to the delivery engine behind that: a cross-functional group of software engineers, data scientists, and data engineers, who take research from across the Institute and academia to turn it into deployable tools that analysts and decision-makers rely on. The team's work will make sense of disparate data streams and produce the pipelines and tooling that let people make real-world decisions with confidence.

ROLE PURPOSE

Applied engineers work closely with analysts to understand the questions they need to answer, often using large, varied and poorly structured data. The applied engineer's job is to understand what the analyst is really asking, answer it quickly, and then turn the repeated, similar ad-hoc queries into efficient, event-driven analytics.

As a Senior Applied Engineer, you will take responsibility for this process from initial problem definition through to delivery. Working alongside partner analysts, you will identify which requirements are suitable for automation, design and build analytical tools on the team's data platform, and support their adoption in practice. You will lead the delivery of analytical products, establish effective approaches for turning exploratory analysis into reliable services, mentor less experienced colleagues and support the Lead Applied Engineer with technical leadership where required. You will join the team's founding cohort of engineers, reporting to the Lead Applied Engineer.

This is a senior individual-contributor role for someone with strong statistical and engineering judgement, experience of turning analysis into operational tools, and a clear interest in producing work that analysts use in practice.

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HOW YOU WILL MAKE AN IMPACT

- Work directly with Defence analysts, largely on-site, to understand their requirements and develop analytical tools that fit their working practices.
- Identify recurring analytical requests and develop efficient, event-driven processes that update and present results when new data becomes available.
- Develop prototypes quickly and, where they demonstrate value, turn them into tested, monitored and deployable services on the team's data platform.
- Apply sound statistical and data science judgement, including selecting appropriate methods, understanding their assumptions, and communicating uncertainty clearly to non-specialist users.
- Build proportionate analyst-facing interfaces where needed, such as dashboards, notebooks, command-line tools and small web applications, using the data products provided by the team's data engineers.
- Help establish and maintain the team's standards for testing, reproducibility and documentation, and support colleagues through technical review and mentoring.

YOU'LL THRIVE IN THIS ROLE IF YOU

- Are motivated by producing work that has **real operational relevance and impact** for UK defence and national security.
- Measure success by **whether analysts use what you built**, not by how elegant the solution was.
- Look for opportunities to **automate recurring analytical work** where this would improve timeliness, consistency or efficiency.
- Are comfortable **sitting with users**, asking naive questions, watching how they work, and being told your first version is wrong.
- Can **hold statistics and engineering in the same head**: you care whether the method is sound and whether the service stays up.
- Would value the opportunity to **help establish a new team** and shape its technical practices from the outset.

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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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 building analytics, data science or data products that were used by non-technical users.	E	A/I
Experience taking exploratory analysis beyond the notebook into something tested, repeatable and deployed, or a clear understanding of what that requires.	E	A/I
Solid Python software engineering: testing, version control, code review, and working within a shared codebase.	E	A/I
Applied statistical and data-science competence: choosing appropriate methods, understanding their assumptions, and communicating results and uncertainty to non-specialists.	E	A/I
Experience working directly with end users to understand and iterate on requirements.	E	I
Experience with event-driven or streaming architectures (message queues, stream processing, triggered pipelines).	D	A/I
Experience building lightweight user-facing tooling (dashboards, notebooks-as-apps, small web apps, CLIs).	D	A/I
Experience delivering into Defence, national security or similarly constrained high-assurance environments.	D	A/I
Eligible to obtain and hold Developed Vetting security clearance, and able and willing to work on-site with Defence partners in London 3 days per week.	E	A

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, information required is outlined clearly in the full Job Description. 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 5 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.

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TERMS AND CONDITIONS

This full-time post is offered on a permanent basis. The annual salary range is £57,000 - £69,000 plus excellent benefits, including flexible working and family friendly policies, [Employee-only benefits guide | The Alan Turing Institute](#)

Given the close working relationship with government partners, this role requires regular on-site presence with Defence partners in London 3 days per week, with possible occasional travel to other sites in the UK, in addition to the Institute's standard office attendance expectations.

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.

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.

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

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How to do it

- Be open to feedback
- Communicate openly
- Treat everyone with respect, regardless of level
- Embrace the opportunity to learn
- Help educate our community
- Take time to reflect to do it better next time