The Alan Turing Institute

Research Associate

Turing – RSS Lab: Providing independent research leadership to the Joint Biosecurity Centre

THE ALAN TURING INSTITUTE

There has never been a more significant time to work in data science and artificial intelligence (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 Alan Turing Institute and the Royal Statistical Society (RSS) are partnering on a programme of work to support the Joint Biosecurity Centre (JBC), which is part of NHS Test and Trace in the Department of Health and Social Care, by providing an independent source of statistical and mathematical modelling and machine learning expertise to address policy-relevant research questions through a series of projects.

The Turing-RSS Lab are hereby advertising the opportunity for early career researchers to join the Turing-RSS Lab and contribute to the existing research tasks, which include spatial-temporal modelling of Covid-19 incidence and prevalence, understanding the impact of Non-Pharmaceutical Interventions, and more broadly work on research questions of priority to policy makers in the UK's response to the pandemic.

ROLE PURPOSE

We are seeking Post-Doctoral Research Associates to join the Turing-RSS-JBC Lab with experience in one or more of the following areas: statistical modelling; statistical machine learning; epidemiology; applied data analysis; modern statistical programming languages including probabilistic programming; applying the principles of reproducible data science

We are keen to support the full-time or part-time (0.4 FTE or more) secondment or fixed-term employment of Post-Doctoral Research Associate(s) to the Alan Turing Institute until 31 March 2022 in the first instance, but with the possibility of longer-term appointment subject to continued funding of the Lab.

We also welcome applications from Research Assistants and candidates who have yet to complete their PhD.

The successful candidates will be managed by the technical directors of the Lab including Prof Chris Holmes, Director of Health and Medical Sciences Programme at The Alan Turing Institute, and supervised by the relevant Principal Investigator.

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The role holder(s) will have the opportunity to provide independent, rigorous statistical modelling and analysis to deliver new insights in the evolving fight against COVID-19 as well as provide further understanding of COVID-19 to the public and wider scientific community and enhance capacity within JBC to better forecast and model the current and future epidemics.

The research team will benefit from the support of a Turing Research Project Manager from within its strategic Health and Medical Sciences Programme.

The role holder will be expected to follow the working values of the Turing-RSS Lab:

- The focus of the Turing-RSS Lab is on supporting the government to undertake responsible and risk-aware design, development and deployment of statistical modelling and machine learning.

- The Turing-RSS Lab believes that critical assessment of its work by the research community and the public at large will help to improve the quality of any advice that it provides. Critical assessment through open science is an important tenet of this collaboration.

- The Turing and RSS are able to draw upon a wide range of expertise through open call, to ensure recruitment of the most talented data scientists, with diverse backgrounds and experience.

- All algorithms are to be designed and developed in a transparent and reproducible manner and delivered with sufficient detail that external research teams can replicate results if they have access to the dataset. This requires:

    - sharing the algorithms and methods publicly, so that anyone may examine them and share their insights and input with the Institute and RSS;
    - speaking openly in relation to our work, in line with the Turing's status as an Independent Research Organisation;
    - adhering to ethical research principles, worthy of public trust, justifiable, fair and non-discriminatory.

DUTIES AND AREAS OF RESPONSIBILITY

- Attend and present research updates at regular lab meetings, and contribute to the external visibility of the Institute.
- Write or contribute to publications or disseminate research findings using other appropriate media
- Adhere to modern principles of reproducible and ethical data science in carrying out their responsibilities.
- Ensure compliance with secure handling of data and health and safety in all aspects of work.
- Drive collaboration with academic experts and broader research partners from across the Turing and the wider Turing / project community.
- Contribute to the broader research aims and challenges of the Turing Health and Medical Sciences programme, and ensure positive feedback to the project partnership.
- Contribute to the life of the Institute and support its community

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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)
Education/Qualification		
A PhD (or equivalent experience and/or qualifications) in a relevant area which will include Mathematics, Statistics, Computer Science, or related discipline	E	A/I
Knowledge and Experience		
Substantial experience in statistical modelling	E	A/I
Experience in performing data analysis on substantial real-world problems	E	A/I
Significant experience of using a modern statistical programming language (such as R or Python)	E	A/I
Ability to understand and apply the principles of reproducible data science in previous research	E	A/I
Experience in working with modern artificial intelligence technologies	E	A/I
Experience of developing and documenting analysis workflows for scientific research projects.	E	A/I
A level of scientific comprehension sufficient to conduct relevant literature reviews.	E	A/I
Ability to critically evaluate experimental results and derive evidence-driven conclusions.	E	A/I
Experience in the evaluation of predictive models in a clinical setting	D	A/I
Research experience in biostatistical or clinical research studies	D	A/I
Experience of regulatory processes involving software as medical devices	D	A/I
Ability to act as an ambassador for the development and implementation of new AI regulatory evaluation processes.	D	A/I
Communication		
Excellent written and verbal communication skills, including experience in the visual representation of quantitative data, documentation of software packages or data resources, the authoring of research papers or technical reports, and giving presentations or classes on technical subjects.	E	A/I
Adapts the style of communication to the audience and ensures understanding.	E	A/I
Ability to communicate complex, specialist or conceptual information clearly and persuasively, presenting compelling arguments to influence and/or negotiate satisfactory outcomes.	E	A/I

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Decision-Making Processes and Outcomes		
Ability to lead own work independently, and make independent decisions that are low risk,mainly affect themselves or a small number of people and are guided by regulation and practice.	E	A/I
Work with others to make collaborative decisions that may be operational or strategic which may impact the immediate team or work area.	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		
Use judgement to analyse and solve problems, and take action to prevent recurrence of problems.	E	A/I
Consider possible solutions to identify those that offer wider benefits, and obtain evidence to support thinking.	E	A/I
Service 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
Analysis and Research		
Ability to plan and implement rigorous analysis plans.	E	A/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	A/I
Understand when additional data is required and identify appropriate sources. Produce reports that identify key issues and findings.	E	A/I
Liaison and Networking		
Participate in networks within the organisation or externally to share knowledge and information in order develop practice or help others learn.	E	A/I
Network with others with shared interests, collaborating on projects and strengthening future relations.	E	A/I
Other Requirements		
An understanding of the requirements for working with confidential and sensitive data for research.	E	I
Flexible attitude towards work	E	I
Commitment to EDI principles and to the Organisation values	E	I

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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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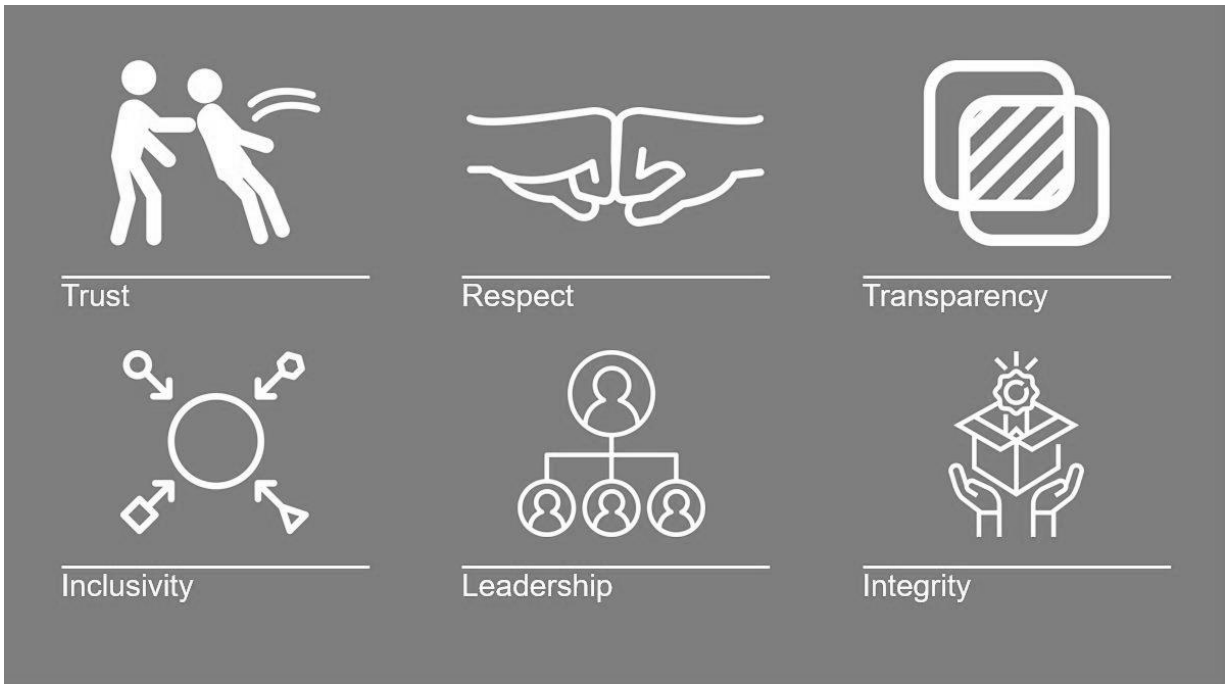
Our Values

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 them on 020 3970 2148, or email recruitment@turing.ac.uk.

CLOSING DATE FOR APPLICATIONS: 30 November 2021 at 23.59 - We will be interviewing shortlisted candidate throughout the process and we reserve the right to close this campaign

once all roles are filled. We therefore strongly encourage applicants to apply as soon as possible.

TERMS AND CONDITIONS

This secondment post is offered on a fixed-term basis until **31 March 2022**.

The successful candidates will be seconded to Turing for the duration of this project, allowing them to access the JBC Secure Research Environment under the Data Access Agreement between the Alan Turing Institute and the Department for Health and Social Care. A secondment agreement will have to be formally put in place and no work on the project will be able to take place until the agreement is signed.

As a secondment, funding will cover salary, on-costs and, pro rated only plus VAT if applicable. Payments will then be made on a quarterly basis.

There is a period of approximately four weeks for the onboarding process to enable access to the JBC data. This will be in parallel to the completion of the secondment agreement.

The post-holders must be employed by a UK university, not limited to the Turing university partner network

The post-holders must be based in the UK in order to access the JBC Secure Research Environment

Intellectual Property in all IPR Material will be the Property of the Alan Turing Institute. The Turing will grant the successful applicant's employing University a non-exclusive, non-transferable, non-sub-licensable, royalty-free licence to use the Arising Intellectual Property for academic and non-commercial research purposes.Turing is committed to designing and developing all algorithms in a transparent and reproducible manner, as well as sharing algorithms and methods publicly.

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.

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***.***