The Alan Turing Institute

Research Associate in Data Science and Machine Learning in Human Rights

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

The Institute has a focused area of work on AI, Human Rights and Inclusion which considers different dimensions to the intersection of AI and human rights including: how AI and related technologies can be applied to address global challenges of human rights; how diverse perspectives can inform in the AI lifecycle (including design, data curation and sharing) to safeguard human rights (e.g., privacy, non-discrimination); and how EDI can be improved across the AI lifecycle, ecosystem and environment to support equitable, just and inclusive societies.

One of the application areas includes a programme of research activities to understand and enable the data ecosystem and application of data science and AI technologies to address modern day slavery challenges for policy-makers and front-line agencies. The research activities have been and are informed by and in collaboration with stakeholders across public, private, non-profit and IGO sectors. The modern slavery specific work is cross-cutting supported through a mixture of internal and external partnerships and funding sources: The Institute is a partner in the Modern Slavery and Human Rights Policy Evidence Centre (herein Modern Slavery PEC) and the Institute's AI for Science and Government (ASG) Programme, Defence & Security Programme, and Finance Programme. The programme of research activities leverages expertise of Project leaders from across the Institute and its University partners. The project involves a multi-disciplinary team with Project Investigator team including: Anjali Mazumder, Jat Singh, Jennifer Cobbe, Carsten Maple, Mihai Cuccuringu.

ROLE PURPOSE

We are looking for an outstanding researcher with a background in data science, statistics and/or machine learning methods with a strong interest in data challenges regarding human rights or humanitarian challenges. The aim of this role is to apply data science and machine learning skills and interdisciplinary knowledge and thinking to (a) identify and consider socio-technical issues and opportunities in combining multiple sensitive datasets sourced across institutions, sectors and borders relating to modern slavery and/or related marginalised populations, (b) apply data science and machine learning methods to multiple and sensitive datasets, and (c) consider and develop approaches to visualise, inform and derive insights at individual and aggregate levels for policy makers and front-line agencies. The role requires engaging with domain experts and stakeholders across law enforcement, government, NGOs and the private sector.

The post-holder will join a multi-disciplinary team of researchers be responsible for delivery and support of the Modern Slavery PEC partnership and workstream – Understanding and Enabling Modern Slavery Data Ecosystem and Data

Science Research, working closely with other Modern Slavery PEC leads and fellows, Turing Project Leads, other Research Associates and Research Assistants and programme management staff. As a senior Research Associate the post-holder will also support in the coordination and direction of modern slavery projects across, collaborating and engaging with external stakeholders and ensuring junior researchers are supported.

This role is suitable for someone who is interested in bringing strong data skills and knowledge to human rights applications. We invite you to join us as we grow our research capability, supporting our goal to develop the next generation of data science researchers to push the boundaries of how we design and conduct data science and AI for human rights and humanitarian action. The post-holder will report to the Theme Lead on AI and Justice and Human Rights.

DUTIES AND AREAS OF RESPONSIBILITY

- Conduct high quality research as relevant to the project to improve understanding of modern slavery data ecosystem and data science and machine learning challenges and opportunities, informing on and developing data curation and sharing approaches to address policy and practice challenges, highlighting opportunities, risks and limitations of data science for human rights applications
- Identify and curate data sources, conducting data analysis, deriving insights from data analysis and visualisation, ensuring validity and reliability of data at all times and maintaining accurate and complete records of all findings
- Learn new methods and approaches to support the delievery of research project's goals and activities
- Take initiative and make original contributions to the research project and its related activities to the success of the goals and objectives
- Collaborate with stakeholders and partners on research and identifying opportunities to take developed methods, frameworks and insights towards wider use.
- Assist in the organisation of and participate in regular meetings and special workshops with the research team, designated members of staff, collaborators amd stakeholders
- Write and publish articles in peer-reviewed journals that highlight findings from research ensuring consistency with the highest standards of academic publication, and draft publications for other mediums such as blogs, briefs and explainers, showcasing the Institute's research leadership
- Present methods and results at conferences and workshops, and communicate results to a diverse audience.
- Work closely with Pis, Co-Is, the research leadership team and collaborators on the project within Turing, MSPEC and across the sector.

If appointed at a Senior Research Associate level, the post-holder will have additional responsibilities, such as:

- Be a point of contact, supporting PIs in engaging with stakeholders regarding projects and deputising in meetings where necessary
- Supervise and line manage junior research team members
- Contribute to defining the research direction in collaboration with Project Investigators
- 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.

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)**
Education/Qualification		
PhD Degree in statistics, machine learning, quantative social science, or related discipline that provides requsite skills to interrogate data, model and code, and consider human rights issues from a data perspective, or equivalent level of professional experience.	E	A
Knowledge and Experience		
Experience in performing data analysis on real-world data problems	E	A
Experience in statistical and machine learning modelling	E	A
Experience in mixed methods research	D	A/I
Knowledge in challenges and opportunity in data collection, data sharing, data infrastructures	D	A/I
Experience of using a modern statistical programming language (such as R or Python)	E	A
Experience of developing and documenting analysis workflows for scientific research projects.	E	A
A level of scientific comprehension sufficient to conduct relevant literature reviews.	E	A/I
Ability to critically evaluate findings and derive evidence-driven conclusions.	E	A/I
Ability to critically assess risks or harms of data and technology use on marginalised communities	D	A/I
Experience or understanding of AI designed for social good/human rights challenges	D	A/I
Experience of working in multi-disciplinary teams	D	I
Experience in managing multiple workstreams, and engaging with stakeholders	D	A&I
Ability to act as an ambassador for the development and implementation of new tools for policy and operational practice.	D	A
Communication		
Possess excellent written and verbal communication skills with the ability to adapt to different audiences, as appropriate	E	A&I
Ability to negotiate and influence others	D	A
Liaison and Networking		
Participate in networks, workshops and conferences within the organisation or externally to share knowledge and information.	E	A
Network with others with shared interests, collaborating on projects and strengthening future relations.	D	A
Project Management & Project Delivery		

Ability to work flexibly, prioritising tasks to meet deadlines and maintaining a high standard of accuracy and attention to detail.	**E**	**A & I**
Proactive approach to managing stakeholders and their requirements and identifying opportunities for collaboration.	**D**	**A**
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 practice.	**E**	**A & I**
Recommend and advise on available options for decisions that affect operational processes, taking into account any risks.	**D**	**A**
Work with others to make collaborative decisions that may be operational or strategic which may impact the immediate team or work area.	**E**	**A**
Initiative and Problem Solving		
Uses judgement to analyse and solve problems, and take action to prevent recurrence of problems.	**E**	**I**
Ability to make recommendations offering wider benefits, using evidence to support	**D**	**A**
Ability to represent leadership and support programme portfolio at meetings.	**D**	**A & I**
Analysis and Research		
Experience supporting research including desk-based literature review, content analysis and summary, and compiling and formatting bibliographic material;	**E**	**A**
A demonstrated interest in the mission of the Alan Turing Institute, and in exploring the real-world impact of cutting-edge technology.	**E**	**A/I**
Ability to organise working time, take the initiative, and carry out research independently, under the guidance of the PI and co-Is.	**E**	**A**
Other Requirements		
Commitment to EDI principles and to the Organisation values.	E	I

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 for a Research Associate is £38,850 - £46,200 plus excellent benefits, including flexible working and family friendly policies, https://www.turing.ac.uk/work-turing/why-work-turing/employee-benefits

Senior Research Associates will be appointed at £49,025.

Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant at a salary of £36,236 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.

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***.***