### **POSTDOCTORAL RESEARCH ASSOCIATE – COMPUTATIONAL SOCIAL SCIENCE**

### 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 Public Policy research programme works alongside policy-makers to explore how data-driven public service provision and policy innovation might help to solve long running societal problems. We also work hand-in-hand with public sector organisations and citizens to develop practice-based ethical standards for the responsible development and use of data science and AI. Our dynamic group works closely with the UK government, as well as international organisations like the United Nations, the Council of Europe, and the European Commission.

As part of its growing leadership in data science and AI for the public sector, the Public Policy programme is strengthening its analytic capabilities by setting up a substantial programme of research in modelling for policy. This programme of research concentrates on studying pressing societal issues that could benefit from policy interventions and on constructing robust, empirically-informed models to identify the most beneficial policy measures. Our aim is to build tools and models that government partners can use to create better public policies.

#### **ROLE PURPOSE**

We are looking to hire an outstanding computational social scientist with a strong background in two complementary methodological areas: (1) data science and (2) agent-computing modelling. Experience in both areas is essential for this position as the Public Policy programme works with public-sector partners with a large demand for computational tools that (1) can exploit newly-availably large-scale data, and (2) are able to examine the micro-level causal mechanisms that generate them. The post-holder will join the Public Policy programme and will be a part of a multidisciplinary team focused on developing a new programme of research in policy modelling. We are open to computational social scientists with topical expertise in diverse areas, for example, inequality (of different types), economic development, industrial organisation, institutional design, social policy, international trade, etc.

The aim of this role is to develop data-rich and theoretically grounded models with high policy relevance. The expected outputs of this work include research articles in high-impact journals, policy reports with partner institutions, stakeholder workshop, conferences, and high-level presentations to government officials. Having some experience regarding the viability and limitations of policy interventions is ideal. The post holder will report to the Public Policy programme's Head of Computational Social Science Research and will work closely with the other members of the research team.

### DUTIES AND AREAS OF RESPONSIBILITY

- The core responsibilities are as follows:

- To develop high calibre data analysis and socioeconomic modelling.
- To identify and curate data sources that can be used to calibrate/estimate and validate the models.
- To design and implement realistic policy intervention experiments, and translate the results into intuitive lessons for policymakers.
- To work with other Postdoctoral Research Associates across the Policy Modelling research group and the Public Policy programme.
- To develop work plans to ensure timely delivery of objectives and assist with quarterly grant reports.
- To build and maintain relationships with policy-makers and socio-economic modelling groups as part of the research project's external engagement strategy.
- To prepare research outputs that are tailored to a diverse audience, ranging from policy-makers to academic researchers, civil society, and the general public.
- To present papers and research outputs at external conferences and events.

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

- To oversee the work of other Postdoctoral Research Associates who are conducting research in related areas.
- To define the research direction in collaboration with the Head of Computational Social Science Research.
- 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.
- Extend, transform and apply knowledge acquired from scholarship to research and appropriate external activities;
- Support externally funded research projects, and to identify and work with senior colleagues to develop research ideas and contribute to funding proposals.

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.

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			
A PhD or equivalent level of professional experience in any quantitative discipline related to socioeconomic systems, complexity science, or computational social sciences.	E	A	
Knowledge and Experience			
A solid track record conducting innovative quantitative/computational research to study socioeconomic systems and their dynamics. We will consider candidates for an appointment at a Senior Postdoctoral Research Associate level if they have significant postdoctoral research experience.	E	AI	
Experienced in working with large-scale datasets from various sources and formats.	E	AI	
Familiarity with data-science techniques.	E	AI	
Expertise in agent-computing modelling.	E	AI	
Expertise in different calibration/estimation methods for computational simulation. This should demonstrate critical thinking about choosing or developing empirical strategies that exploit the characteristics of the data and the model/problem at hand.	D	AI	
Experience conducting research on socioeconomic systems.	E	AI	
Knowledge/understanding of the government and policy-making landscapes.	D	I	
Experience in interacting with policy-makers and translating data-driven findings into meaningful insights and policy-focused reports	D	A, I	
Communication			
Excellent written and verbal communication skills, including experience in the visual representation of quantitative data, the ability to write for publication, present research proposals and results, and represent the research group at meetings.	E	A, I	
Ability to communicate complex information clearly.	Е	I	
Teamwork and Motivation			
A proven ability to collaborate successfully in a multidisciplinary environment and to manage delivery of projects.	Е	A	
Ability to direct the work of a small research team and motivate others to produce a high standard of work.	D (E for senior level)	A	
Ability to lead one's own work independently, including planning and execution, and to collaborate productively as part of a team.	E	A	
Planning and Organising			
Ability to organise and prioritise own work with minimal supervision.	E	А	
Initiative and Problem Solving			
Creative approach to problem solving	D	A, I	
Analysis and Research			

A record of scientific publication, which may include journal articles, book chapters, and scientific advisory reports/white papers, that is suitable to career stage and appointment level	E	A
Excellent writing skills and a proven ability to communicate research findings to diverse audiences	Е	А
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 <u>EDI Principles</u> and Our Values.



#### **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 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

Senior Research Associate level will be appointed at £46,690.

Please note candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant within the salary 34,510 per annum.

This job description is written at a specific time and is subject to change as the demands of the Institute and the role develop. The role requires flexibility and adaptability, and the post holder needs to be aware that they may be asked to perform tasks and be given responsibilities not detailed in this job description.

The Alan Turing Institute is based at the British Library, in the heart of London's Knowledge Quarter.

In line with current Government guidance, most of our organisation is currently working remotely. When Government guidance changes, we will trial a Hybrid Working Model for an initial six-month trial period. During this period, staff will be expected to work at our British Library office for a number of days per month, dependent on the requirements of the role. As a guide, we anticipate this will be between 2-4 days per month, but the hiring manager will be able to confirm this during the interview.

### 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 teal 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 <u>HR@turing.ac.uk</u>.