The Alan Turing Institute

AI for Science and Government Theme Lead – Health and Medical Sciences

(Part-time and open to external Secondment)

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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 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 several 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 Health and Medical Sciences Programme at the Alan Turing Institute delivers research into the theory and methods of AI, statistics, and data analytics underpinning medical and health applications that will enable scientists to do better science, without compromising respect for privacy and patient trust. This rapidly growing programme is led by Professor Chris Holmes.

AI for Science and Government (ASG) is a major integrated research programme at the Alan Turing Institute with a goal to deploy AI and data science in priority areas to support the UK economy. ASG was initiated in 2018 with a £38.8M investment from the UK government's strategic priorities fund and supports a range of ongoing projects in different domain areas including applications in Health, the Criminal Justice System, Data Science for Science, Engineering, and Urban Analytics.

In addition to these six core themes, ASG researchers are also working on three large, recently initiated, cross-theme projects that focus on:

- *Ecosystems of digital twins*: combining methodology from Engineering and Urban Analytics to develop integrated systems of digital twins.
- *Shocks and resilience*: improving policymaking by linking healthcare and economic data and models, preparing for future shocks and making government more resilient
- *Environment and sustainability*: linking heterogeneous environmental data and models to help assess the widespread impact of climate change, from arctic sea ice loss to food security.

We are recruiting a **Theme Lead for Health and Sciences** who will be responsible for overseeing and developing ASG health research as part of the leadership of the ASG and Turing Health and Medical Sciences programmes.

ROLE PURPOSE

You will provide leadership to the ASG Health Theme, which has a diverse portfolio of work across the full range of healthcare concerns – from the genomic, molecular and cellular basis of disease to clinical data analytics and epidemiological modelling – in partnership with significant stakeholders including the NHS and Health Data Research UK.

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You will become part of the senior ASG team, led by Prof. Ben MacArthur (Director of ASG) and Prof. Jon Rowe, (ASG Chair). You will also be working alongside the Programme Director for Health, Prof. Chris Holmes and the Health programme team to help to shape the strategy and implementation of the Turing's Health Programme. This will include close working across the Alan Turing Institute and Health Data Research UK, which provides a unique opportunity to join-up national health data science initiatives, to address the big health issues facing the UK.

This is a stand-out opportunity to join a prestigious, national research institute and shape its agenda at an important and exciting time in its development.

The role is ideally suited to candidates who are leading researchers in data science with an outstanding track record in collaborative research across data science related disciplines (AI, mathematical sciences, statistics, computing sciences and/or social sciences) and with deep interests in data-driven methods and/or approaches for tackling real-world problems in health using data science and AI methods and tools. It offers the opportunity to shape the Institute's research, training, translation and knowledge exchange priorities and establish new programmes of work in the health domain. Areas of particular interest include, but are not restricted to:

- Clinical trials
- Public health and epidemiology
- Genomics and other 'omics data, molecular medicine
- Structured and unstructured data from Electronic Health Records
- Health Service/NHS systems
- Advanced analytics towards precision medicine
- AI validation and regulation
- Operational research

You will report to the Director of the Health Programme, Prof. Chris Holmes and ASG Director Prof. Ben MacArthur.

DUTIES AND AREAS OF RESPONSIBILITY

You will ideally have an international profile as a researcher working in one or several disciplines of AI and data science, with significant experience of project delivery and leading a research team with a focus on health data science. You will be expected to work closely with the ASG Leadership and the Health Programme Director to:

- Help develop and deliver the strategy of both the ASG Health Theme and the Health and Medical Sciences Programme and ensure strategic links between other research and partners
- Build capabilities in the relevant research areas, drawing upon the multidisciplinary nature of the ASG investment and the Alan Turing Institute
- Engage widely within the research and user community in AI and data science to help deliver compelling research outputs and impacts
- Conduct an ambitious programme of research in AI and health data science generating first class research outputs, aligned with the aims and objectives of the Institute
- Help leverage resources and secure further funding for collaborative research in AI and data science from appropriate sponsors (e.g., research councils, government, industry, EU, charities, etc.)
- Disseminate findings at industry, academic and practitioner conferences and meetings
- Work with the ASG and Health programme teams, university members, partners and staff to maximise opportunities for translation and exploitation of the algorithms, software, methods and ideas developed through Institute's programmes.
- Help develop and deliver a stakeholder engagement plan to maximise the impact from both the ASG Health Theme and the Health and Medical Sciences Programme
- Inform and make decisions on appropriate use of funds within the ASG Health Theme, in line with the ASG Programme processes and guidance
- Assist in the supervision of early career post-doctoral researchers working on the ASG Health Theme
- Contribute to the skills and career development for the community of early career post-doctoral researchers on the Health and Medical Sciences Programme through supporting a programme of informal knowledge exchange
- Line management of 4 team members and carrying out performance appraisals

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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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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 or equivalent level of professional qualifications and/or experience in data science (broadly defined to include mathematics, statistics, computer science pure or applied) or related quantitative discipline	E	A
Knowledge and Experience		
Record of excellence in AI, mathematics, statistics, computer, social science and/or related areas with an emphasis on applications to health, obtained in an academic, government and/or industrial setting	E	A/I
Leadership and strategic vision skills, especially as required in a complex, research-intensive collaboration with academic and/or industry partners	E	A/I
Ability to create and promote a collegiate and collaborative approach to research partnership activities	E	A/I
Talent for identifying opportunities for research collaborations beyond the applicant's own academic specialty	E	A/I
Previous experience in a similar role	D	A/I
A strong network of contacts across health-related data science disciplines and/or domains	D	A/I
Experience of managing and leading a team	E	A/I
Communication		
Communication and advocacy skills, both verbal and written, with the ability to express ideas and concepts clearly and coherently to diverse audiences and to engage in public debate	E	I
Ability to communicate and network across disciplines	E	I
Able to verbally communicate complex and specialist information clearly and persuasively, presenting compelling arguments to influence and/or negotiate outcomes	D	I
Able to explain complicated matters simply, in a written/electronic format, tailoring the format to suit the audience's needs	D	I

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Decision Making		
Independently makes long lasting, complex decisions at an operational or strategic level which effects a large part of the department	E	A/I
Able to make strategic decisions which have a significant impact for the organisation, ensuring processes are robust and decisions are challenged appropriately	E	A/I
Planning and Organising		
Set performance standards and formulates action plans, monitoring and reviewing progress regularly	D	A/I
Undertake medium-term resource planning in-line with department objectives	D	A/I
Initiative and Problem Solving		
Able to resolve complex problems with the personal skills and initiative to achieve the solution	E	A/I
Able to identify solutions that bring wider and longer term benefits for the organisation and potentially external partners	D	A/I
Analysis and Research		
Develop new hypotheses and concepts for testing to expand or extend existing body of knowledge	E	A/I
Challenge the status quo and provide approaches to explore new possibilities or explanations	E	A/I
Ability to bridge both fundamental and applied research	E	A/I
Other Requirements		
Commitment to meeting deadlines	E	I
Flexible attitude towards work	E	I
Commitment to EDI principles and to the Organisation values	E	I

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OUR VALUES

EQUALITY, DIVERSITY AND INCLUSION

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 us on 020 3862 3592 or 0203 862 3340, or email recruitment@turing.ac.uk.

If you are currently employed by a University and require secondment to the Alan Turing Institute for the duration of this role as opposed to direct employment, please provide a statement of support from the applicable Head of Department to allow secondment (see Terms and Conditions below) via email to healthprogramme@turing.ac.uk . Statement can be submitted up to a week after closing date. This is an administrative requirement only and will not be part of assessment criteria.

CLOSING DATE FOR APPLICATIONS: 17th June 2021

TERMS AND CONDITIONS

This post is available up to 0.4 FTE. We will also consider 0.2 FTE; however, 0.4 FTE is preferred.

This part-time post is offered on a Fixed Term basis until 31st March 2022, with the possibility to extend to 31st March 2023 under the current grant. Subject to securing additional funding, further extension is also possible.

The full time equivalent annual salary is £66,990-£76,633, pro-rated to £26,796-£30,653 at 0.4 FTE. This opportunity is open for both direct employment and secondment from your employer (not limited to the Turing University Partner network).

If you are seconded from your employer, a secondment agreement will cover salary and on-costs at the advertised rate only, plus VAT if applicable. Payments will be made on a quarterly basis to your employing University.

If you are employed directly by The Alan Turing Institute you will be entitled to excellent benefits, including flexible working and family friendly policies, https://www.turing.ac.uk/work-turing/why-work-turing/employee-benefits.

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***.***