The Alan Turing Institute

Research Associate/Senior Research Associate, AI for Environmental Resilience

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

In an era of increasing environmental volatility, weather and climate prediction are crucial for national security and global resilience. These capabilities provide the early warning systems required to protect infrastructure and ensure the security of food, water, and energy. This field is being fundamentally re-engineered by Artificial Intelligence; global weather forecasting AI models are now thousands of times faster than traditional numerical prediction and frequently outperform conventional models in both accuracy and efficiency. Developing sovereign AI capabilities in this space is essential to ensure the UK possesses the independent and trusted tools to manage risk and accelerate decision-making.

ROLE PURPOSE

The Environment Forecasting Mission advances AI-enabled forecasting to deliver practical decision intelligence, protecting people and infrastructure from extreme weather, securing the Arctic, and providing operational climate intelligence for global development and adaptation.

1. **Weather Forecasting for National Security**

Providing critical decision intelligence to anticipate and manage risks from extreme weather, protect people and infrastructure, and support resilient supplies of food, water, and energy. From medium-range to (sub)seasonal weather timescales.

2. **Arctic Monitoring and Forecasting for Climate Resilience**

Developing advanced coupled atmosphere-ocean-sea ice prediction systems to support safe navigation, safeguard polar communities and ecosystems, and enhance situational awareness to foster resilience across the rapidly changing High North region.

3. **Climate Prediction for Global Development and Adaptation**

Delivering climate intelligence for the UK and data-sparse and resource constrained regions to support food security, public health, and climate adaptation in low- and middle-income countries. On timescales relevant to business and policy decision making, e.g. from years to decades ahead.

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We are seeking either a motivated Senior Research Associate or a Research Associate to join our team in advancing high-priority research at the frontier of AI for modelling the Earth system. Projects that you may work on include but are not limited to;

Fastnet - A collaboration between the Met Office and the Alan Turing Institute to develop the UK's first national operational AI weather prediction system.

Cumulus - An international collaboration focused on co-developing sub-seasonal weather forecasting to support agricultural decision-making in West Africa, and to reinforce the resilience of global food supply chains.

IceNet - A project that develops a comprehensive, end-to-end forecasting system to advance ocean and sea ice monitoring and prediction. Aims to provide critical decision support for Arctic ship navigation, autonomous underwater vehicle (AUV) operations, Indigenous communities, and environmental management agencies.

And new projects currently being developed in AI for Climate, including prediction on interannual-to-decadal timescales.

HOW YOU WILL MAKE AN IMPACT

The responsibilities below apply across both Research Associate and Senior Research Associate roles. The level of autonomy, leadership, stakeholder engagement, and strategic contribution expected will increase at Senior Research Associate level.

- Contribute to the delivery of high-quality research projects, supporting the successful achievement of project objectives, outputs, and impact. Senior Research Associates will typically take greater ownership for leading technical, and coordination across projects.
- Work collaboratively with colleagues, clients, and research partners to understand project requirements, shape priorities, and balance research excellence with stakeholder and organisational needs.
- Contribute to the development of research direction and technical approaches in collaboration with Principal Investigators (PIs) and wider project teams. Senior Research Associates may take a more proactive role in shaping research strategy and identifying opportunities for future work.
- Produce, contribute to, and disseminate high-quality research outputs, including reports, publications, peer-reviewed papers, presentations, and project case studies. Senior Research Associates will typically lead the drafting and coordination of significant written outputs and publications.
- Communicate research findings and project outcomes to a diverse range of stakeholders through conferences, workshops, events, meetings, media opportunities, and other engagement activities as appropriate.
- Build and maintain effective working relationships with internal and external stakeholders, including academic collaborators, industry partners, funding bodies, and the wider Turing community. Senior Research Associates may act as a key point of contact for projects and partnerships.
- Support the development of funding proposals, grant applications, and contractual submissions. Senior Research Associates will typically play a leading role in the preparation and coordination of proposals and may contribute to identifying new funding or partnership opportunities.
- Support and contribute to collaborative team working across projects and disciplines. Senior Research Associates may provide supervision, mentoring, and guidance to junior colleagues and support capability development within the team.
- Contribute to the wider life of the Institute by embracing and promoting the Turing values, supporting a diverse and inclusive community, and adhering to the principles of reproducible, ethical, and secure data science in all aspects of work

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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)**
Experience in a relevant area, e.g., machine learning, AI, computer science, mathematics, statistics, physics, engineering, environmental data science.	E	A/I
Proven experience in developing machine learning models and writing robust, scalable code	E	A/I
Experience in modelling of complex physical and/or spatiotemporal systems	E	A/I
Evidence of high-quality publication(s) in a relevant field commensurate with your career stage	E	A
Excellent written and verbal communication skills including the ability to present complex or technical information, and to communicate effectively with diverse audiences	E	A/I
Ability to work effectively both as part of a team and in cross collaboration with other teams as required by the role	E	A/I
Ability to negotiate and influence others	E – Senior Research Associate	I
Demonstrable experience of leading research projects	E – Senior Research Associate	A/I
Ability to carry out research independently and take the lead on writing up findings as they emerge	E – Senior Research Associate	A/I
Ability to take the lead on research direction in collaboration with the PIs	E – Senior Research Associate	A/I
Previous experience overseeing, supervising or mentoring more junior colleagues' work	E – Senior Research Associate	I
Experience in developing machine learning systems that incorporate both gridded and un-gridded data.	D	A/I
Proactive approach to managing internal and/or external stakeholders and their requirements and identifying opportunities for collaboration	D	A/I
Other Requirements		
Commitment to EDI principles and to the Organisation values	E	I

APPLICATION PROCEDURE

If you are interested in this opportunity you will need to register on the careers 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 at recruitment@turing.ac.uk

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TERMS AND CONDITIONS

This is a full-time post offered on a permanent basis. The annual salary range is £45,505 - £51,465 for Research Associate level / £57,000 - £58,482 for Senior Research Associate level. Our offers include excellent benefits, including flexible working and family friendly policies, Employee-only benefits guide | The Alan Turing Institute

Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant at a salary of £42,593 per annum.

The Alan Turing Institute is based at the British Library, in the heart of London's Knowledge Quarter. We expect staff to come to our office at least 4 days per month. Some roles may require more days in the office; 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. 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.