

The University of Chicago's [AI for Climate Initiative](#) (AICE) and [Climate Extremes Theory and Data](#) (CeTD) group invite applications for multiple postdoctoral fellow and research scientist positions to work with Prof. [Pedram Hassanzadeh](#) on advancing AI weather forecasting across scales, from short- and medium-range to subseasonal-to-seasonal (S2S) predictions. These researchers will closely collaborate with a growing multidisciplinary team, which includes Profs. [Michael Kremer](#) (Economics) and [Amir Jina](#) (Public Policy), focused on human-centered weather forecasts, and in conjunction with the international efforts at the [Development Innovation Lab](#) (DIL).

Broadly, the topics of interest include

1. Developing S2S AI weather models
2. Developing AI models for probabilistic weather forecasting
3. Forecasting monsoon and other extreme precipitation events across scales
4. Developing benchmarks and metrics for AI weather models based on climate and AI theories, particularly focusing on physical consistency and extreme events
5. Calibrating AI weather models for optimal regional skills
6. Exploring hybrid AI-numerical weather prediction modeling
7. Integrating AI weather models and data assimilation techniques
8. Integrating AI weather models and mathematical and AI innovations for rare events
9. Developing algorithms for foundation AI weather models

Work on each of these topics involves collaborations with leading experts in atmospheric science and AI from the University of Chicago and other institutions. The close partnership with economists and public policy experts at DIL accelerates the translation of the outcome of this work to significant societal impact.

In addition to being part of the dynamic AICE and DIL communities, these researchers will benefit from major activities around AI and climate at the University of Chicago, including the [Data Science Institute](#), the Climate and Sustainable Growth Institute, and the [AI+Science Initiative](#), as well as those at the Argonne National Lab.

Minimum Qualifications:

- Completion of a PhD in Climate Science, Atmospheric Science, Physical Oceanography, Applied and Computational Mathematics, Physics, Engineering, or a related field at the time of the appointment;
- Strong programming and numerical skills;
- Experience with high-performance computing and analysis of large datasets;
- Ability to work both independently and as part of a multidisciplinary team;
- Ability to work in a fast-paced environment;
- Strong communication skills.

Strongly Preferred Qualifications:

- Expertise in weather forecasting or climate modeling/dynamics;
- Familiarity with theoretical and practical aspects of scientific deep learning;

- Experience with AI weather models.

Application Process:

Interested candidates should submit:

1. A complete curriculum vitae that includes a list of publications and contact information of at least three references,
2. A statement (max 2 pages) detailing how their past research experience, interests, and career plans would fit the aforementioned topics.

Please send these materials as a single PDF file to pedramh@uchicago.edu with the subject line "Application: AI weather". Applications will be reviewed on a rolling basis and accepted until **December 1, 2024**.

The positions are available immediately. The start date can be flexible but should be before August 1, 2025. Depending on the applicant's background and interests, the appointment will be made at the Department of Geophysical Sciences or Data Science Institute.

Research Scientist Appointments:

Outstanding applicants with more than 3 years of postdoc experience will be considered for appointment as research scientists.

Equal Employment Opportunity Statement:

All University departments and institutes are charged with building a faculty from a diversity of backgrounds and with diverse viewpoints; with cultivating an inclusive community that values freedom of expression; and with welcoming and supporting all their members. We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages diverse perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange. The University's Statements on Diversity are at <https://provost.uchicago.edu/statements-diversity> The University of Chicago is an Affirmative Action/Equal Opportunity/Disabled/Veterans Employer and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, age, status as an individual with a disability, protected veteran status, genetic information, or other protected classes under the law. For additional information please see the University's Notice of Nondiscrimination. Job seekers in need of a reasonable accommodation to complete the application process should call 773-834-3988 or email equalopportunity@uchicago.edu with their request.