Columbia University's Climate School invites applicants for a Postdoctoral Research Scientist position in machine learning, and atmospheric and climate science at its Morningside campus in New York City. This position is part of the newly funded [NSF Science and Technology Center "Learning the Earth with Artificial Intelligence and Physics" (LEAP).](#) Appointment is full-time for a two-year period. Appointment is made annually and is contingent upon funding and performance.

The Postdoctoral Research Scientist will use machine learning and Bayesian inference to unite insights from disparate sources of data on cirrus cloud ice crystals. These sources of data include particle probe and electron microscopy of cirrus ice particles captured in situ, laboratory data from cloud chamber and particle levitation experiments, and remote sensing data of growing clouds with radar and lidar. These data will be used to inform the complexity necessary to accurately model the growth pathways of ice crystals, and also to constrain and quantify uncertainty within these models. The project will be lead by Dr. Marcus van Lier-Walqui and Dr. Kara Lamb at Columbia University in collaboration with Dr. Hugh Morrison and Dr. Andrew Gettelman at the National Center for Atmospheric Research (NCAR). The successful applicant will collaborate with a supportive team that includes machine learning experts and atmospheric scientists at both NCAR and the Center for Learning the Earth with Artificial Intelligence and Physics (LEAP; https://leap.columbia.edu, a new NSF Science and Technology Center (STC) at Columbia University).

The Postdoctoral Research Scientist will be expected to organize and chair a LEAP research working group related to ML - parameter inference in models, lead peer-reviewed publications, and present their results at LEAP and other scientific meetings. The Postdoctoral Research Scientist should also expect to occasionally (though infrequently) travel to NCAR in Boulder, Colorado as part of multi-institutional collaborations.

Minimum Qualifications

A Ph.D. in Earth System Science, Atmospheric Science, Data Science, Bayesian Statistics, Applied Mathematics, Physics, or a directly related discipline is required by the start of the appointment.
Strong programming skills are a requirement.

Preferred Qualifications

- Fluency in Python and Fortran
- Advanced experience in machine learning.
- Demonstrated experience in handling large, disparate datasets, and experience with statistical/mathematical analyses and data visualization.
- Excellent command of the English language (verbal and written) and strong communication skills are desired.

Application Instructions

Submit your application, including a cover letter, which should detail past research experience

and future interests, current CV, and the names, phone numbers and email addresses of three references at
https://apply.interfolio.com/107625.

Appointment is full-time for a two-year period. Appointment is made annually and is contingent upon funding and performance.

Search will remain open for at least 30 days after the ad appears and will continue until the position is filled.

Columbia University benefits are offered with this Officer of Research appointment.