Postdoc or Research Scientist position on using machine learning and mixed-precision computing for modeling of geophysical turbulence and weather/climate

Rice University

The Environmental Fluid Dynamics Group at Rice University (http://pedram.rice.edu/) is seeking a postdoctoral scholar or research scientist to work on using machine learning and mixed-precision computing to improve the modeling of multi-scale, chaotic, dynamical systems with applications to geophysical turbulence and weather/climate prediction.

The successful candidate will work on developing new rigorous approaches for effectively modeling subgrid processes using data-driven techniques and mixed-precision computing, test them in prototypes of chaotic and turbulent systems, and eventually implement them in models of atmospheric/oceanic turbulence. The successful candidate is expected to lead some of our efforts in this area and also interact closely with other students/postdocs in our group (http://pedram.rice.edu/team/) who are working on data-driven modeling, geophysical turbulence, and climate dynamics/prediction.

This project is supported by a 3-year young investigator award from the Office of Naval Research to Prof. Pedram Hassanzadeh.

Minimum qualifications:
- Completed a doctoral degree in applied math, geophysical fluid dynamics, mechanical or civil engineering, atmospheric/climate science, or a related field at the time of the appointment,
- Strong background in applied math, numerical analysis, and fluid/nonlinear dynamics,
- Demonstrated effective written and verbal communication skills.

Preferred qualifications:
- Experience with machine learning, data-driven modeling, or high-performance computing,
- Experience with turbulence physics/modeling,
- Experience working on cross-disciplinary subjects.

For the research scientist position, at least 3 years of postdoctoral research experience are also required.

The start date is flexible, but the position will become available as soon as August 1, 2020. Later starting dates in the Fall of 2020 and Spring of 2021 would be possible. The contract will be initially for a year and is renewable for up to 3 years based on progress and performance. The salary would commensurate with experience.

If you have any questions, contact Prof. Hassanzadeh (pedram@rice.edu). To apply, send 1) A detailed CV that includes education/work background, a list of publications, and contact information for at least 3 references, and 2) A one-page statement that summarizes your previous research accomplishments and future interests to pedram@rice.edu.

Review of applications will start on July 15, 2020, and the position will remain open until filled.