New project to improve modeling of climate change

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Grant and Award Announcement
UNIVERSITY OF ILLINOIS SCHOOL OF INFORMATION SCIENCES

Jingrui He, professor of information sciences at the University of Illinois Urbana-Champaign, has been awarded a two-year, $600,000 grant from the IBM-Illinois Discovery Accelerator Institute to improve modeling climate change and its impact across multiple application domains. He and a team of researchers from the University of Illinois and IBM will build Climate Runtime, a computational framework integrating cutting-edge capabilities from climate foundation models and multimodal fusion. This framework will allow for accurate prediction and quantification of weather and climate events and their impact in areas such as finance and agriculture.

"In agriculture, crop insurance data is shown to be strongly affected by historical global warming. Price fluctuation of greens and yield data demonstrate significant impacts by climate change," said He. "For such multimodality data, we will leverage the geospatial representations from climate foundation models, fine-tune the predictive models to generate more reliable predictions in these domains as compared to state of the art, and explore deep insights regarding the key contributing factors."

The researchers expect the Climate Runtime project to contribute to advances across multiple scientific disciplines, including artificial intelligence and climate science.

He's general research theme is to design, build, and test a suite of automated and semi-automated methods to explore, understand, characterize, and predict real-world data by means of statistical machine learning. She received her PhD in machine learning from Carnegie Mellon University.

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