THE FIRST INTERNATIONAL WORKSHOP ON CLIMATE INFORMATICS

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The threat of climate change is one of the greatest challenges currently facing society. The climate system is characterized by complex and structured phenomena that are imperfectly observed and even more imperfectly simulated. In recent years, the magnitude of data is beginning to dwarf the relatively simplistic tools and ideas that have been developed to analyze them. This proposal introduces the first international workshop on a new discipline: *Climate Informatics*: a collaboration between climate scientists and machine learning researchers, to bridge the gap between complexity and understanding. *Machine learning* is an active computer science research area concerned with developing automated techniques to detect patterns in data. Machine learning has already revolutionized discovery in the natural sciences to which it has been applied, such as biology and chemistry. Just as productive techniques and new discoveries arose from the resulting interdisciplinary fields of bioinformatics, and computational chemistry, the goal of climate informatics is to accelerate discovery in climate science. With an ever growing stream of climate and environmental data from satellites and sensors, there are a myriad of opportunities for machine learning to have a profound impact on climate science. The proposed workshop will encourage collaborations between machine learning and climate science, in order to accelerate progress in answering pressing questions.