The Challenges of Developing Trustworthy AI Systems for High Impact Weather Prediction

David John Gagne[1]

[1]National Center for Atmospheric Research, Boulder, CO, USA

The trustworthiness of an artificial intelligence/machine learning system is based on the evaluation of each user and is thus a product of the relationship between the AI/ML system and the user rather than an intrinsic property. Trustworthiness assessments often incorporate traditional verification statistics but are also affected by user experience and the quality of the interface between the user and system. These factors make any assessment of trustworthiness challenging and context- and user-dependent. Therefore, efforts to develop trustworthy AI systems need to be performed with the user and purpose in mind. In this presentation, I will discuss my group's experiences developing AI systems that aim to be trustworthy as part of the AI2ES AI Institute and other projects. I will discuss challenges we have encountered and ways we have worked through them to build more robust and usable AI systems.