SPATIOTEMPORAL MACHINE LEARNING FOR HYDROLOGY: A COUPLE OF EXAMPLES

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With rapidly increasing spatiotemporal data being collected from remote sensing and simulation models, there is a growing need for machine learning (ML) techniques to analyze such rich spatiotemporal data in Earth science (e.g., national water resource management, disaster response). However, spatiotemporal data poses unique challenges in ML, such as spatial and temporal autocorrelation, heterogeneity, paucity of ground truth, and the existence of domain constraints. This talk will demonstrate some novel spatiotemporal ML techniques in the context of flood inundation mapping and National Hydrography Dataset refinement.

BIO: Dr. Jiang is an assistant professor in Department of Computer & Information Science & Engineering (CISE) at the University of Florida. His lab's mission is to advance AI and machine learning foundations inspired by interdisciplinary applications (e.g., Earth sciences, smart cities, biomedicine).