Customized Machine Learning for Remote Sensing

Speaker: Prof. Leah Ding
Department of Computer Science
American University
Friday, November 3, 2023
1-2PM, NVC 219

Abstract

Machine learning, particularly deep learning, provides powerful ways for retrieving information from passive and active sensors for earth and solar science applications. However, standard machine learning models may face limitations in producing physically consistent results, as they do not necessarily adhere to the fundamental governing laws of physical systems. In this talk, I will discuss our efforts to address this challenge. Our approach focuses on designing deep neural networks that favor solutions that adhere to the underlying natural phenomena, and I will illustrate this through several real-world applications.

Biography

Dr. Leah Ding is an Associate Professor in the Department of Computer Science at American University. She conducts research on applied machine learning tailored to real-world applications in fields such as scientific data analytics and cybersecurity. Before joining American University, she was a Research Principal at Accenture Labs (the R&D division of Accenture), and an adjunct professor at Johns Hopkins University.