



Scientific Machine Learning for Modeling and Control of Energy Systems

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Abstract

This talk presents a scientific machine learning perspective (SciML) on modeling, optimization, and control of energy systems. Specifically, we will discuss the opportunity to develop a unified SciML framework for modeling dynamical systems, learning to optimize, and learning to control methods. We demonstrate the application of these emerging SciML methods in a range of engineering case studies, including modeling of networked dynamical systems, building control, and dynamic economic dispatch problem in power systems.

About Our Speaker

Ján Drgoňa is an associate professor in the Department of Civil and Systems Engineering and a member of the Ralph S. O'Connor Sustainable Energy Institute (ROSEI) at Johns Hopkins University (JHU). Before joining JHU, he was a senior data scientist in the Physics and Computational Sciences Division at Pacific Northwest National Laboratory and a postdoc at the mechanical engineering department at KU Leuven in Belgium. Ján earned his PhD in Control Engineering from the Slovak University of Technology in Bratislava, Slovakia. His current research is focused on scientific machine learning with applications in sustainable energy systems.

More Information:

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