Department of Industrial Engineering
Cullen College of Engineering

2023 DR. BEN OSTROFSKY LECTURE SERIES

The Fusion of Machine Learning and Optimization

featuring

Pascal Van Hentenryck

The A. Russell Chandler III Chair/Professor

The H. Milton Stewart School of ISyE, GaTech

March 10, 2023

The Department of Industrial Engineering at the Cullen College of Engineering invites you to attend the 2023 Dr. Ben Ostrofsky Lecture Series:

The Fusion of Machine Learning and Optimization
March, 10, 2023
1:00 p.m. – 2:00 p.m. CT

In-Person: D2 Lect 2
Online: Zoom Meeting ID: 97076565407. Password: 477211

Featuring
Keynote Speaker
Dr. Pascal Van Hentenryck
The A. Russell Chandler III Chair and Professor, the H. Milton Stewart School of ISyE, Georgia Institute of Technology

Lecture Abstract

The fusion of machine learning and optimization has the potential to achieve breakthroughs in decision making that the two technologies cannot accomplish independently. This talk reviews a number of research avenues in this direction, including the concept of optimization proxies and end-to-end learning. Principled combinations of machine learning and optimization are illustrated on case studies in energy systems, mobility, and supply chains. Preliminary results show how this fusion makes it possible to perform real-time risk assessment in energy systems, find near-optimal solutions quickly in supply chains, and implement model-predictive control for large-scale mobility systems.

About the speaker

Pascal Van Hentenryck is the A. Russell Chandler III Chair and Professor in the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology and the Associate Chair for Innovation and Entrepreneurship. He is the director of the NSF AI Institute for Advances in Optimization, the director of the Socially Aware Mobility (SAM) and the Risk-Aware Market Clearing (RAMC) labs. Several of his optimization systems have been in commercial use for more than 20 years for solving logistics, supply-chains, and manufacturing applications. His current research focuses on machine learning, optimization, and privacy with applications in energy, mobility, and supply chains.

Van Hentenryck is an INFORMS Fellow and a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI), the recipient of two honorary doctoral degrees, the Philip J. Bray teaching award at Brown University, the 2021 teaching excellence award for online teaching at Georgia Tech, the ACP Award for Research Excellence in Constraint Programming, the ICS INFORMS Prize for Research Excellence at the Intersection of Computer Science and Operations Research, and a Ulam Fellowship from Los Alamos National Laboratories.

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