2020 SIAM Annual Meeting Session

Developments in Machine Learning: Foundations and Applications - Part I - III

July 8 - 10, 2020

Organizers:
Paul J. Atzberger
University of California, Santa Barbara.

Panos Stinis
Pacific Northwest National Laboratories.

Part I:
Wednesday, July 8, Timezone: Eastern Standard Time (EST)
2:00PM - 2:20PM, *Stabilized Dynamic Autoencoders,* N. Benjamin Erichson, University of California, Berkeley, U.S.

2:25PM - 2:45PM, *Leverage-Score Sketching for Sparse Tensor Decomposition,* Tamara G. Kolda, Sandia National Laboratories, U.S.; Brett Larsen, Stanford University, U.S.

2:50PM - 3:10PM, *Deep Neural Networks for Inverse Modeling*, Eric F. Darve, Stanford University, U.S.

Part II:
Thursday, July 9, Timezone: Eastern Standard Time (EST)
2:00PM - 2:20PM, *A Discrete Exterior Graph Calculus for Data-Driven Model Extraction on Graphs,* Nathaniel Trask, Sandia National Laboratories, U.S.

2:25PM - 2:45PM, *Deep Learning Stochastic Dynamics on Manifolds and Dimension Reductions,* Christopher J. McMahon, University of California, Santa Barbara, U.S.; Paul J. Atzberger, University of California, Santa Barbara, U.S.

2:50PM - 3:10PM, *Learning High-Dimensional Systems from Data by Optimal Nonlinear Approximations and Deep Networks,* Clayton G. Webster, University of Tennessee and Oak Ridge National Laboratory, U.S.

3:15PM - 3:35PM, *Robust Training and Initialization of Deep Neural Networks: An Adaptive Basis Viewpoint,* Mamikon Gulian, Sandia National Laboratories, U.S.

Part III
Friday, July 10, Timezone: Eastern Standard Time (EST)
2:00PM - 2:20PM, *A Data-Driven, Machine Learning-Based Approach to Adaptive Deep Brain Stimulation,* Timothy Matchen, University of California, Santa Barbara, U.S.; Jeff Moehlis, University of California, Santa Barbara, U.S.

2:25PM - 2:45PM, *Integrating Deep Learning with Operator Theory to Discover the Performance Envelope of Synthetic Gene Circuits,* Enoch Yeung, University of California, Santa Barbara, U.S.

2:50PM - 3:10PM, *Adaptive Online Learning of Dynamical System Flow Maps,* Panos Stinis, Pacific Northwest National Laboratory, U.S.