

Machine Learning for Physics and the Physics of Learning

Tuesday September 17, 2019

- 2:30–3:00 **Moritz Hoffmann** (Freie Universität Berlin)
Generating Euclidean distance matrices
- 3:30–4:00 **Jordan Snyder** (University of California, Davis (UC Davis))
Coarse-graining for coupled oscillators: a case study in discovering low-dimensional dynamics

Thursday September 19, 2019

- 2:30–3:00 **Samson Koelle** (University of Washington)
Collective coordinates with physical meaning
- 3:30–4:00 *Journal Club*

Tuesday October 1, 2019

- 2:30–3:00 **Adam Rupe** (University of California, Davis (UC Davis))
Intrinsic Computation and Physics-Based Representation Learning for Complex Dynamical Systems
- 3:30–4:00 **Andreas Mardt** (Freie Universität Berlin)
Deep learning of molecular kinetics

Thursday October 3, 2019

- 2:30–3:00 **Katherine Breen** (Baylor University)
Simultaneous discovery of coordinates and parsimonious dynamics
- 3:30–4:00 *Journal Club: Reproducing Kernel Hilbert Spaces*

Tuesday October 8, 2019

- 2:30–3:00 **Kathleen Champion** (University of Washington)
Simultaneous discovery of coordinates and parsimonious dynamics
- 3:30–4:00 **Stefan Klus** (Freie Universität Berlin)
SINDy for classification problems



Thursday October 10, 2019

- 2:30–3:00 **Erik Thiede** (University of Chicago)
Accurate Data-driven Estimation of Dynamical Quantities
- 3:30–4:00 *Journal Club (Stephen Xie): How can we explain the predictions of a blackbox model?*

Tuesday October 22, 2019

- 2:30–3:00 **Yu-Chia Chen** (University of Washington)
Selecting the independent coordinates of manifolds with large aspect ratios
- 3:30–4:00 **Kim Nicoli** (Technische Universität Berlin)
Analysis of Atomistic Representations Using Weighted Skip-Connections

Thursday October 24, 2019

- 2:30–3:00 **Anastasiya Salova** (University of California, Davis (UC Davis))
Data-driven methods to study dynamics on complex networks
- 3:30–4:00 **Hao Wu** (Tongji University)
Optimal finite-rank approximation of Koopman operators: Theory, methods and challenges

Tuesday November 5, 2019

- 2:30–3:00 **Maghesree Chakraborty** (University of Rochester)
Systematic coarse-grained mapping selection
- 3:30–4:00 **Xavier Brumwell** (Michigan State University)
Wavelet Scattering for Materials

Thursday November 7, 2019

- 2:30–3:00 **Alex Goeßmann** (Technische Universität Berlin)
Tensor Recovery and Machine Learning
- 3:30–4:00 *Journal Club*

Tuesday November 12, 2019

- 2:30–3:00 **Lukas Kades** (Ruprecht-Karls-Universität Heidelberg)
Importance Sampling of Complex Probability Distributions
- 3:30–4:00 **Rhys Goodall** (University of Cambridge)
How far can we get when predicting properties without crystal structures? [working title]

Thursday November 14, 2019

- 2:30–3:00 **Jared Callahan** (University of Washington)
Stochastic reduced-order modeling with applications
- 3:30–4:00 *Journal Club*

Tuesday November 26, 2019

- 2:30–3:00 **Luca Venturi** (New York University)
TBA
- 3:30–4:00 **Marc Stiefenhofer** (Max Planck Institute for Polymer Research)
TBA