

From Local to Global Information (<https://soihub.org/hawaii/>)

Honolulu, Hawaii, February 5-7, 2020

Venue: Prince Hotel Waikiki, 100 Holomoana Street, Honolulu, HI 96815

(All Talks, Breakfast and Lunch will be in the Makiki Room at the Prince Hotel)

Workshop Schedule

Wednesday, February 5, 2020

Makiki Room

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| 7:30 – 9:00 | Breakfast |
| 9:00 – 10:00 | Wojtek Szpankowski (Purdue)
Welcome and Introduction |
| 10:00 – 11:00 | Michael Mahoney (Berkeley)
Local and Global Methods to Identify Local and Global Structure in Data Science” |
| 11:00 – 12:00 | Andrea Montanari (Stanford)
Large Neural Networks Insights from Linearized Models |
| 12:00 – 1:30 | Lunch Break – Lunch will be served |
| 1:30 - 2:30 | Naftali Tishby (Jerusalem)
Local and Global Information Bottlenecks in Deep Learning |
| 2:30 – 3:30 | Susan Holmes (Stanford)
Difficulties in Nonlinear Dimension Reduction: How t-SNE Fails to Capture Global Structure and What We Can Do to Improve It |
| 3:30 4:30 | Prasad Santhanam (Hawaii)
Novel Data Derived Statistical Guarantees from Cover to Neural Networks |

Thursday, February 6, 2020

Makiki Room

- 7:30 – 9:00 Breakfast
- 9:00 – 10:00 **Venkat Anantharam (Berkeley)**
Data Driven Estimation
- 10:00 – 11:00 **Marina Meila (Washington)**
From Local to Global in Clustering and Dimension Reduction
- 11:00 – 12:00 **Jen Neville (Purdue)**
Learning over Sets, Subgraphs, and Streams: How to Accurately Incorporate Graph Context in Network Models
- 12:00 – 1:30 Lunch Break – Lunch will be served
- 1:30 - 2:30 **Gil Shamir (Google)**
Minimum Description Length Regularization for Online Learning
- 2:30 – 3:30 **Yury Polyanskiy (MIT)**
Reconstruction on Trees via Information Theory
- 3:30 4:30 **Dana Randall (Georgia Tech)**
Phase Transitions and Emergent Phenomena in Algorithms and Applications

Friday, February 7, 2020

Makiki Room

- 7:30 – 9:00 Breakfast
- 9:00 – 10:00 **Yuliy Baryshnikov (UIUC)**
Reparametrization Invariant Tools for Time Series

Friday, February 7, 2020 - Continued

- 10:00 – 11:00 **Al Hero (Michigan)**
Stochastic Graphs for Representation of Information
- 11:00 – 12:00 **Kimon Fountoulakis (Waterloo)**
Recent Advances in Local Graph Clustering and the
Transition to Global Analysis
- 12:00 – 1:30 Lunch Break – Lunch will be served
- 1:30 **Workshop Adjourns**