Graph Ex-17

MIT Lincoln Laboratory

Graph Exploitation Symposium

PREFACE

ACKNOWLEDGMENTS

AGENDA

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GES-8
Issued: 25 October 2017

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PREFACE

Graph Exploitation Symposium

The GraphEx Symposium brought together leading experts from universities, industry, and government to explore the state of the art and define a future road map in network science. The event was limited to a small group of invited attendees. The symposium took place at the MIT Endicott House.

Symposium Highlights

The two-day technical program topics of interest included:

- Modeling noise, uncertainty and interference
- Multi-modal and heterogeneous networks
- Algorithms and processing architectures for large-scale data
- Models and techniques for dynamic graphs
- Analysis of hidden and covert communities
- Network visualization and visual analytics
- Implications of adversarial settings for future research

Group Photograph of the GraphEx Symposium attendees

Report Documentation and Contract Acknowledgment Pages
ACKNOWLEDGMENTS

Organizers

Chairs
Sanjeev Mohindra ................................................................. MIT Lincoln Laboratory
William Streilein ............................................................... MIT Lincoln Laboratory

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Benjamin Miller ................................................................. MIT Lincoln Laboratory

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### AGENDA

**16 May 2017**

| 01 | Symposium Overview .................................................. | B. Miller ........................................ | MIT Lincoln Laboratory |
| 02 | Day 1 Keynote ............................................................ | P. Kegelmeyer ................................. | Sandia National Laboratories |
| 03 | Protecting Networks from a Strategic Adversary ................. | P. Basu ....................................... | BBN Technologies |
| 04 | Human Dynamic Dark Networks (HDDN) ............................. | L. Li .......................................... | MIT Lincoln Laboratory Analytics |
| 05 | Streaming Graphic Analytic Algorithms .......................... | S. Smith .................................... | MIT Lincoln Laboratory DARPA's HIVE Challenge |
| 06 | Distributed Particle Filters: Stability Results .................. | M. Rabbat .................................... | McGill University and Graph-Based Compression of Weighted Particle Clouds |
| 07 | Influence Maximization on Complex Networks .................... | A. Sathanur .................................. | Pacific Northwest National Laboratory with Intrinsic Nodal Activation - Methods and Applications |
| 08 | Graph Partitioning Using Random Walks: ........................... | L. Orecchia .................................. | Boston University A Convex Optimization Perspective |
| 09 | Motif-Driven Graph Analysis ........................................... | B. Tsourakakis ............................ | Boston University |
| 10 | Banquet Speaker .......................................................... | D. Lazer ..................................... | Northeastern University The Prevalence and Mechanisms of Spread of Fake News* |

*Presentation not included in proceedings.*
17 May 2017

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<td>Day 2 Keynote: Nonstochastic Bandit Problems on Graphs</td>
<td>N. Cesa-Bianchi</td>
<td>Università degli Studi di Milano</td>
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<td>02</td>
<td>Ruffled Feathers: When Can Gender Be Predicted on Social Networks?*</td>
<td>J. Ugander</td>
<td>Stanford University</td>
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<td>Causal Inference in the Presence of Networks: Randomization and Observation</td>
<td>A. Volfovsky</td>
<td>Duke University</td>
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<td>Threat Network Detection: Social Media as a Sensor for Dark Network Activities</td>
<td>O. Simek</td>
<td>MIT Lincoln Laboratory</td>
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<td>J. Eaton</td>
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*Presentation not included in proceedings.
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Poster Session
01  Model-Assisted Design of Experiments with ..........G. Basse.......................... Harvard University
Network-Correlated Outcomes
02  IMAGINE: Interactive MAssive Graph .................W. Bolden/ ......................... Univ. of California,
Interpretations via the Nucleus treE R. Tran Santa Cruz
03  Accelerating Sparse Computation ..........................J. Fryman............................ Intel
04  Parallel Local Algorithms for Core, Truss, and ..........A.E. Sariyuce................... Sandia National
Nucleus Decompositions R. Tran Santa Cruz
05  Network Topology Identification from Spectral ..........S. Segarra......................... MIT IDSS
Templates
06  Threat Network Detection: Social Media as a ..........O. Simek/ ......................... MIT Lincoln Laboratory
Sensor for Dark Network Activities D. Shah/S. Smith
07  Graph Matching the Matchable Nodes When ..........D. Sussman....................... Boston University
Some Nodes are Unmatchable
08  Counter-Adversarial Community Detection ............J. Wendt.......................... Sandia National
Laboratories
09  Introducing ESCAPE, Gunrock and Pluros: ..........V. Vaidyanathan................. Royal Caliber
Groundbreaking Performance through
Algorithms, Hardware and Abstractions