

Submittee: Kevin Murphy

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Title: Bayesian methods for social network analysis

Event Type: Summer-School

Location:

Fairmont Chateau, Whistler, BC

Dates:

June 20-25, 2010

Topic:

Bayesian statistical methods for social network analysis

Methodology:

Tutorials and poster session. Followed by one data workshop.

Objectives Achieved:

The goal was to bridge gaps between different research subcommunities (e.g., statistics, computer science, social and political science) - this was achieved by having speakers and students from a diversity of backgrounds, and encouraging them to talk to each other.

Scientific Highlights:

There was considerable discussion of the 'exponential family graph model'. I think it became clear to people that the problem is caused by the model being too simple - not enough features (sufficient statistics), which causes the MLE to exist on the edge of the parameter space. More complex models might be easier to fit, as well as being more realistic.

Organizers:

Dobra, Adrian, Dept. Statistics, U. Washington -- Murphy, Kevin, Dept. Statistics, U. British Columbia -- Gottardo, Raphael, Fred Hutchinson Cancer Agency

Speakers:

Stephen E. Fienberg, Maurice Falk University Professor of Statistics and Social Science, Carnegie Mellon University: Exponential random graph models // Adrian E. Raftery, Blumstein-Jordan Professor of Statistics and Sociology, University of Washington: Latent position and clustering models for social networks // Peter Hoff, Associate Professor, Department of Statistics, University of Washington: Latent variable models for network data // Kate Stovel, Associate Professor,

Department of Sociology, University of Washington: Sociological questions for social network analysis // Edo Airolidi, Assistant Professor of Statistics, Faculty of Arts & Sciences, Harvard University: Statistical elements of complex networks // Eric Xing, Associate Professor, Machine Learning Department, Carnegie Mellon University: Time varying graphical models: reverse engineering and analyzing rewiring social and genetic networks // Nathan Eagle, Research Scientist, The MIT Design Laboratory, Massachusetts Institute of Technology: Big Data, Global Development, and Complex Social Systems // David Jensen, Associate Professor, Computer Science Department, University of Massachusetts Amherst: Structure learning for joint models of relational data // David Hunter, Associate Professor, Department of Statistics, Penn State: Exponential family models for networks, with Bayesian applications // Carter Butts, Associate Professor, Department Of Sociology, University of California, Irvine: Error, missing data, and network inference //

Links:

<http://people.cs.ubc.ca/~murphyk/pims2010Whistler/index.html>

<http://bayesnet.rglab.org/activities/summer-school-2010/>
