

Matthew J. Rattigan

Department of Computer Science
University of Massachusetts Amherst
140 Governors Drive
Amherst, MA 01003

413-825-1414
rattigan@cs.umass.edu
www.cs.umass.edu/~rattigan

Research Interests: *Machine learning, knowledge discovery and data mining, causal inference, social network analysis, statistical relational learning, experimental design*

Education

University of Massachusetts Amherst, Amherst, MA.
Ph.D. in Computer Science, expected 2010

Wesleyan University, Middletown, CT.
B.A. in Computer Science, 1997

Research and Professional Experience

University of Massachusetts Amherst, Amherst, MA
Graduate Research Assistant, Fall 2001-present
Advisor: David Jensen

Thesis research focuses on using statistical methods to discover causal dependencies in relational data.

Comcast Interactive Media, Philadelphia, PA
Summer Intern, Summer 2007-Winter 2007

Led independent research and development projects to enhance the quality and features of a commercial entertainment web portal.

Upromise, Brookline, MA
Senior Reporting Analyst, Fall 2000-Fall 2001

Provided executive-level decision support reporting and analysis for a rapidly growing web-based startup.

Ask Jeeves / Direct Hit Technologies, Natick, MA

Senior Data Analyst, Spring 1999-Fall 2000

Worked as a data analyst and software engineer for a company producing a third-generation Internet search engine.

Decision Architects / The Monitor Company, Cambridge, MA

Decision Support Consultant, Summer 1997-Spring 1999

Served as the technical lead on case teams in the United States and Europe, responsible for supplying appropriate technical solutions to strategic business problems.

Publications

Journal Articles

The Case for Anomalous Link Discovery (2005)

Rattigan, M. and D. Jensen.

ACM SIGKDD Explorations vol. 7 issue 2, December, 2005.

Refereed Conference Papers

Graph Clustering with Network Structure Indices (2007)

Rattigan, M., M. Maier and D. Jensen

Proceedings of the 24th International Conference on Machine Learning.

Using Structure Indices for Efficient Approximation of Network Properties (2006)

Rattigan, M., M. Maier, and D. Jensen

Proceedings of the 12th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.

Information Awareness: a Prospective Technical Assessment (2003)

Jensen, D. and M. Rattigan

Proceedings of the 9th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.

Workshop Papers

Exploiting Network Structure for Active Inference in Collective Classification (2007)

Rattigan, M., M. Maier, and D. Jensen

Proceedings of the 7th IEEE International Conference on Data Mining Workshops.

Statistical Relational Learning: Four Claims and a Survey (2003)

Neville, J., M. Rattigan and D. Jensen

Proceedings of the Workshop on Learning Statistical Models from Relational Data, 18th International Joint Conference on Artificial Intelligence.

Technical Reports

Hypothesis Testing Methods For Relational Data (2009)

M. Rattigan and D. Jensen

University of Massachusetts Amherst Technical Report UM-CS-2009-053

Discovering Causal Knowledge by Design (2009)

M. Maier, M. Rattigan, D. Jensen

University of Massachusetts Amherst Technical Report UM-CS-2009-047

Learning Filesystems (2005)

M. Rattigan, D. Jensen, and M. Corner

University of Massachusetts Amherst Technical Report UM-CS-2005-070

Randomization Tests for Relational Learning (2003)

D. Jensen, J. Neville and M. Rattigan

University of Massachusetts Amherst Technical Report UM-CS-2003-005

Invited Talks

“Network Structure Indices for Graph Clustering” (June 2007)

Microsoft Research, Bellevue WA

Technical Skills

Contributed to the PROXIMITY relational knowledge discovery system

(<http://kdl.cs.umass.edu/proximity>)

Designed, implemented, and maintained several sports-focused web sites.

Experience with Java, C/C++, Python, Perl, PHP, Javascript, HTML, SQL, R.

Service

Reviewer: TKDE (2008)

Program committee: KDD (2007)

External reviewer: KDD (2002, 2004), ICDM (2007)

UMass Computer Science Graduate Student Faculty Representative (2006)

UMass Computer Science Graduate Student Union Steward (2004)