Joseph J. Pfeiffer III

jpfeiffer@purdue.edu
www.cs.purdue.edu/homes/jpfeiff

Research Interests

Machine Learning, Data Mining, Active Learning, Relational Learning, Social Network Analysis, Semi-supervised Machine Learning, Generative Graph Models

Education

Ph.D. Candidate, Purdue University, Computer Science — *Expected* Spring 2015
Concentration: Relational Machine Learning – GPA: 3.94
Advisor: Jennifer Neville

M.S., Purdue University, Statistics and Computer Science — August 2013
Concentration: Relational Machine Learning – GPA: 3.94
Advisor: Jennifer Neville

M.S., University of Colorado at Boulder, Computer Science — May 2009
Concentration: Machine Learning – GPA: 3.91
Advisor: Gregory Grudic

B.S., New Mexico State University, Computer Science — December 2006
Supplementary Major: Math – GPA: 3.98
High Honors

Work Experience

Research Assistant. Purdue University — Fall 2009 - Present
Advisor: Jennifer Neville
Research: Relational Machine Learning, Active Learning, Random Graph Models

Graduate Intern. Microsoft Research — Summer 2013
Mentors: Max Chickering and Paul Bennett
Research: Active Learning for Skewed Label Domains

Graduate Intern. Lawrence Livermore National Laboratory — Fall 2012
Mentor: Brian Gallagher
Research: Temporal Random Graph Models

Graduate Intern. LivingSocial — Summer 2012
Mentor: Elena Zheleva
Research: Incentivized Sharing Patterns and Behaviors

Cooperative Education Student. NASA - Johnson Space Center — Summer 2011
Mentor: Jodi Graf
Research: LADAR Camera Object Detection / Image Obstacle Recognition

Cooperative Education Student. NASA - Johnson Space Center — Summer 2009
Mentor: Robert Platt, Jr.
Research: Robotic Machine Learning, Robotic Hand Grasping and Hapic Localization

Research Assistant. University of Colorado — Fall 2007 - Spring 2009
Advisor: Gregory Grudic
Research: Mobile Robot Image Space Navigation

Cooperative Education Student. NASA - Johnson Space Center — Summer 2008
Mentor: Tam Ngo — Spring/Summer 2007
Research: Mobile Robot Navigation

Research Assistant. New Mexico State University — Fall 2006
Advisor: Jing He
Research: Characterizing Protein Structures

Cooperative Education Student. NASA - Johnson Space Center — Summer 2006
Mentor: Robert Hirsh
Research: SCOUT Lunar Robot Development

Publications

Journal Articles

- Using touch to localize flexible materials during manipulation.
  R. Platt Jr., F. Permenter and J. J. Pfeiffer III
  IEEE Transactions on Robotics, Special Issue on Robotic of Touch, June 2011

Conference Papers

- Overcoming relational learning biases to accurately predict preferences in large scale networks
  J. J. Pfeiffer III, J. Neville and P. N. Bennett
  Proceedings of the 24th International World Wide Web Conference (WWW), 2015
  (Acceptance Rate: 14.1%) (To appear)

- Incorporating Assortativity and Degree Dependence into Scalable Network Models
  S. Mussmann, J. Moore, J. J. Pfeiffer III and J. Neville
  Proceedings of the Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI), 2015
  (Acceptance Rate: 26.67%) (To appear)

- Composite Likelihood Data Augmentation for Within-Network Statistical Relational Learning
  J. J. Pfeiffer III, J. Neville and P. N. Bennett
  Proceedings of the 14th IEEE International Conference on Data Mining (ICDM), 2014.
  (Acceptance Rate: 9.7%)

- A Scalable Method for Exact Sampling from Kronecker Models
  S. Moreno, J. J. Pfeiffer III, J. Neville and Sergey Kirshner
  Proceedings of the 14th IEEE International Conference on Data Mining (ICDM), 2014.
  (Acceptance Rate: 9.7%)

- Active Exploration: Using Probabilistic Relationships for Learning and Inference
  J. J. Pfeiffer III, J. Neville and P. N. Bennett
  Proceedings of the 23rd ACM International Conference on Information and Knowledge Management (CIKM), 2014 (Acceptance Rate: 21%)

- Attributed Graph Models: Modeling network structure with correlated attributes
  J. J. Pfeiffer III, S. Moreno, T. La Fond, J. Neville and B. Gallagher
  Proceedings of the 23rd International World Wide Web Conference (WWW), 2014
  (Acceptance Rate 12.9%)

- Fast Generation of Large Scale Social Networks While Incorporating Transitive Closures
  J. J. Pfeiffer III, T. La Fond, S. Moreno and J. Neville

Proceedings of ASE/IEEE International Conference on Social Computing, 2012
(Acceptance Rate 10%)

- Methods to Determine Node Centrality and Clustering in Graphs with Uncertain Structure
  J. J. Pfeiffer III and J. Neville
  Proceedings of the 5th International AAAI Conference on Weblogs and Social Media, ICWSM, 2011

Refereed Workshop Papers

- Attributed Graph Models: Towards the Sharing of Relational Data
  J. J. Pfeiffer III, S. Moreno, T. La Fond, J. Neville and B. Gallagher
  KDD at Bloomberg, 2014

- Assortativity in Chung Lu Random Graph Models
  S. Mussmann, J. Moore, J. J. Pfeiffer III and J. Neville
  Proceedings of the 8th Workshop on Social Network Mining and Analysis (SNAKDD), 2014
  (Acceptance Rate: 21%)

- Combining Active Sampling with Parameter Estimation and Prediction in Single Networks
  J. J. Pfeiffer III, J. Neville and P. N. Bennett
  Proceedings of ICML Structured Learning Workshop, 2013

- Active Sampling of Networks
  J. J. Pfeiffer III, J. Neville and P. N. Bennett
  Proceedings of the 10th Workshop on Mining and Learning with Graphs (MLG), 2012

- Incentivized Sharing in Social Networks
  J. J. Pfeiffer III and E. Zheleva
  Proceedings of First International Workshop on Online Social Systems, 2012

- Probabilistic Paths and Centrality in Time
  J. J. Pfeiffer III and J. Neville
  Proceedings of the 4th Social Network Analysis Workshop, 16th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2010

- Inferring Hand-Object Configuration Directly from Tactile Data
  R. Platt Jr., F. Permenter and J. J. Pfeiffer III
  Proceeding of the Mobile Manipulation Workshop, IEEE Conference on Robotics and Automation (ICRA), 2010

- A General Framework for Reconciling Multiple Weak segmentations of an Image
  S. Ghosh, J. J. Pfeiffer III and J. Mulligan
  IEEE Workshop on Applications of Computer Vision, 2009

Awards

IEEE International Conference on Data Mining Student Travel Grant	2014
Purdue University Bilsland Doctoral Fellowship	Fall 2014
Purdue University Fredrick N. Andrews Doctoral Fellowship	Fall 2009 - Spring 2011
University of Colorado Computer Science Departmental Fellowship	Fall 2007 - Spring 2008

NMSU Outstanding Senior for College of Arts and Sciences	Fall 2006
NASA Outstanding Cooperative Education Student	Spring 2006, Summer 2007
New Mexico State University Dean's List	2002-2006
New Mexico State University Crimson Scholar	2002-2006
New Mexico State University Regents Scholarship	2002-2006
University of Minnesota Graduate School Fellowship (*Declined*)	

Honor Societies

Upsilon Pi Epsilon Honor Society
Phi Kappa Phi National Honor Society
Alpha Chi National Honor Society

Professional Service Activities

SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) Reviewer	2015
International Conference on Machine Learning (ICML) Reviewer	2015
National Conference on Artificial Intelligence (AAAI) Reviewer	2014, 2015
Neural Information Processing Systems (NIPS) Reviewer	2014
Organizer for Purdue Machine Learning Seminar	2014
Treasurer of Purdue University Computer Science Graduate Student Board	2010-2011
Webmaster - Purdue Graduate Student Government	2011-2012
FIRST Robotics - Technical Judge	2009

Teaching Experience

Teaching Assistant. University of Colorado	Spring 2008
Data Structures - Recitation Instructor, Grader	

References

References available upon request.