

Luke K. McDowell

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Since 2006, Prof. McDowell has led work in the area of link-based classification (LBC) and other prediction tasks for linked (relational) data, in conjunction with other researchers from the Naval Research Laboratory, Purdue University, and EPFL. He has produced thirteen publications focused on LBC (including [1, 2, 3, 4, 5, 7, 10, 11, 12, 13, 14]) and three publications in other SRL (statistical relational learning) areas [8, 6, 9]. Many of these have been at prominent conferences (including AAI, ICML, CIKM, and DSAA) and journals (including JAIR, JMLR, and TKDD). This work has been funded by grants (where Prof. McDowell was the PI) from NSF, ONR, and the Naval Research Laboratory.

Professional Preparation **PRINCETON UNIVERSITY** Princeton, NJ
B.S.E., Electrical Engineering, granted June 1997, Highest Honors

UNIVERSITY OF WASHINGTON Seattle, WA
Ph.D., Computer Science, granted August 2004
M.S., Computer Science, granted December 2001.

Appointments **U.S. Naval Academy**, Department of Computer Science, Annapolis, MD 2005–present
Professor with tenure, 2016–present
Associate Chair, 2015–present
Associate Professor with tenure, 2010–2016
Assistant Professor, 2005–2010

Ecole Polytechnique Federale de Lausanne (EPFL), Institute for Core Computing Science, Lausanne, Switzerland 2011–2012
Invited Professor, Distributed Information Systems Laboratory

University of Washington, Computer Science & Engineering, Seattle, WA 1999–2004
Research Assistant, 2000–2004
Focus: Semantic Web and Computer Architecture

Microsoft Research, Redmond, WA Summer 2000
Research Intern, Software Productivity Tools Group

Sarnoff Corporation, Murray Hill, NJ 1997–1999
Associate Member Technical Staff, 1999
Senior Technical Associate, 1997–1999
Focus: Computer Vision, Embedded Systems, and Parallel Processing

Selected Publications (all accessible from <http://www.usna.edu/Users/cs/lmcdowel>)

- [1] Luke K. McDowell, Kalyan Moy Gupta, and David W. Aha. Case-based collective classification. In *Proc. of the 20th International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 399–404, 2007.
- [2] Luke K. McDowell, Kalyan Moy Gupta, and David W. Aha. Cautious inference in collective classification. In *Proc. of the 22nd AAAI Conference on Artificial Intelligence (AAAI)*, pages 596–601, 2007.
- [3] L. K. McDowell, K. M. Gupta, and D. W. Aha. Cautious collective classification. *Journal of Machine Learning Research*, 10:2777–2836, 2009.
- [4] L. K. McDowell, K. M. Gupta, and D. W. Aha. Meta-Prediction for Collective Classification. In *Proc. of the Twenty-Third International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, 2010.
- [5] Robert Crane and Luke K McDowell. Evaluating markov logic networks for collective classification. *Proc. of the 9th MLG Workshop at the 17th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, 2011.
- [6] Anton Dimitrov, Alexandra Olteanu, Luke McDowell, and Karl Aberer. Topick: Accurate topic distillation for user streams. In *IEEE International Conference on Data Mining (ICDM 2012), Demo Session*, pages 882–885, 2012.
- [7] L. K. McDowell and D. Aha. Semi-supervised collective classification via hybrid label regularization. In *Proc. of the 29th Int. Conference on Machine Learning (ICML)*, pages 975–982, 2012.
- [8] Ryan A. Rossi, Luke K. McDowell, David W. Aha, and Jennifer Neville. Transforming graph data for statistical relational learning. *Journal of Artificial Intelligence Research*, 45:363–441, 2012.
- [9] Abson Sae-Tang, Michele Catasta, Luke K McDowell, and Karl Aberer. Semantic place prediction using mobile data. In *Proc. of the Mobile Data Challenge Workshop (MDC 2012)*, 2012.
- [10] L. K. McDowell and D. W. Aha. Labels or attributes? Rethinking the neighbors for collective classification in sparsely-labeled networks. In *Proc. of the 22nd ACM International Conference on Information and Knowledge Management (CIKM)*, pages 847–852, 2013.
- [11] Aaron Fleming, Luke K. McDowell, and Zane Markel. A Hidden Treasure? Evaluating and Extending Latent Methods for Link-based Classification. In *Proc. of the IEEE International Conference on Information Reuse and Integration (IRI)*, pages 669–676, 2014.
- [12] Luke K. McDowell. Relational Active Learning for Link-Based Classification (**Best Paper Award**). In *Proc. of the IEEE/ACM International Conference on Data Science and Advanced Analytics (DSAA2015)*, 2015.
- [13] Joshua R. King and Luke K. McDowell. Correcting Relational Bias to Improve Classification in Sparsely-Labeled Networks. In *Proc. of the IEEE/ACM International Conference on Data Science and Advanced Analytics (DSAA2016)*, 2016.
- [14] Luke K. McDowell and David W. Aha. Leveraging neighbor attributes for classification in sparsely labeled networks. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 11(1):2:1–2:37, July 2016.

Collaborators

- Karl Aberer; EPFL (Switzerland); Collaborator
- David W. Aha; Naval Research Laboratory; Collaborator
- Michele Catasta; EPFL(Switzerland); Student Collaborator
- Robert Crane; U.S. Navy; Student Collaborator
- Anton Dimitrov; HiredInTech.com; Student Collaborator
- Aaron Fleming; U.S. Naval Academy; Student Collaborator
- Joshua King; U.S. Naval Academy; Student Collaborator
- Kalyan Moy Gupta; Knexus Research; Collaborator
- Jennife Neville; Purdue University; Collaborator
- Alexandra Olteanu; EPFL(Switzerland); Student Collaborator
- Ryan Rossi; Purdue University; Student Collaborator
- Abson Sae-Tang; Telefonica Investigacion y Desarrollo (Spain); Student Collaborator
- Zane Markel; U.S. Naval Academy; Student Collaborator

Graduate Advisors (at University of Washington)

- Oren Etzioni (now with Allen Institute for Artificial Intelligence); Advisor
- Alon Halevy (now with Google Inc.); Advisor