

Benjamin Fish

CONTACT INFORMATION Mathematics, Statistics, and Computer Science bfish3@uic.edu
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EDUCATION **University of Illinois at Chicago**, Chicago, IL
Ph.D. candidate in Mathematics (specializing in Mathematical Computer Science), 2013 – present.
Advised by Lev Reyzin, expected graduation May 2018.
M.S. in Mathematics, 2015.

Pomona College, Claremont, CA
B.A. in Mathematics and Computer Science, 2009 – 2013.
Graduated cum laude.

PAPERS *Sub-Linear Time Adaptive Data Analysis*. Benjamin Fish, Lev Reyzin, and Benjamin I.P. Rubinfeld. To appear at the International Symposium on Artificial Intelligence and Mathematics (ISAIM 2018).

On the Complexity of Learning from Label Proportions. Benjamin Fish and Lev Reyzin. International Joint Conference on Artificial Intelligence (IJCAI 2017).

A task-driven approach to time scale detection in dynamic networks. Benjamin Fish and Rajmonda S. Caceres. Workshop on Mining and Learning with Graphs 2017 (at KDD 2017).

Open Problem: Meeting Times for Learning Random Automata. Benjamin Fish and Lev Reyzin. 2017 Conference on Learning Theory (COLT 2017).

Betweenness centrality profiles in trees. Benjamin Fish, Rahul Kushwaha, and György Turán. Journal of Complex Networks, Volume 5, Issue 5, October 2017 (JCN 2017).

Recovering Social Networks by Observing Votes. Benjamin Fish, Yi Huang, and Lev Reyzin. 2016 Autonomous Agents and Multiagent Systems International Conference (AAMAS 2016).

A Confidence-Based Approach for Balancing Fairness and Accuracy. Benjamin Fish, Jeremy Kun, and Ádám D. Lelkes. SIAM Intl. Conference on Data Mining (SDM 2016).

Handling Oversampling in Dynamic Networks Using Link Prediction. Benjamin Fish and Rajmonda S. Caceres. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML 2015).

On the Computational Complexity of MapReduce. Benjamin Fish, Jeremy Kun, Ádám D. Lelkes, Lev Reyzin, and György Turán. In Proceedings of the 29th International Symposium on Distributed Computing (DISC 2015).

Fair boosting: A case study. Benjamin Fish, Jeremy Kun, and Ádám D. Lelkes. ICML 2015 Workshop on Fairness, Accountability, and Transparency in Machine Learning (at ICML 2015).

Zero-sum Flows of the Linear Lattice. Ghassan Sarkis, Shahriar Shahriari, and the Pomona College Undergraduate Research Circle. Finite Fields and their Application, 2015.

CSPs and Connectedness: P/NP Dichotomy for Idempotent, Right Quasigroups. Benjamin Fish, Robert W. McGrail, James Belk, Solomon Garber, and Japheth Wood. 16th Intl. Symposium on

Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2014).

Diamond Free Subsets in the Linear Lattices. Ghassan Sarkis, Shahriar Shahriari, and the Pomona College Undergraduate Research Circle. Order, 2013.

The Word Problem in Quandles. Advised by Rena Levitt. B.A. Thesis, 2013.

The Cophylogeny Reconstruction Problem. Advised by Ran Libeskind-Hadas. B.A. Thesis, 2013.

Feature selection based on mutual information for human activity recognition. Benjamin Fish, Ammar Khan, Nabil Hajj Chehade, Chieh Chien, and Greg Pottie. IEEE Intl. Conference on Acoustics, Speech and Signal Processing (ICASSP 2012).

SELECTED HONORS AND AWARDS NSF EAPSI Fellowship, 2016.

Distinction in Mathematics Senior Exercise, Pomona College, 2013.

Harvey Mudd College Computer Science Department Wing and Ellen Tam Software Development Award, 2010.

RESEARCH AND TEACHING EXPERIENCE

Research Assistant, *University of Illinois at Chicago*, 2016, 2017.

Visiting Scholar, *University of Utah*, 2017.

Graduate Teaching Assistant, *University of Illinois at Chicago*, 2013 – 2017.

Led discussion sections for Pre-calculus, Calculus I, Introduction to Computer Science, and Linear Algebra for Business.

Visiting Researcher, *University of Melbourne*, Melbourne, Australia, 2016.

Research Intern, *MIT Lincoln Laboratory*, Lexington, MA, 2014 – 2016.

NSF REU Intern, *Bard College*, Annandale-on-Hudson, NY 2012.

Undergraduate Research Circle member, *Pomona College*, Claremont, CA, 2011-2012.

NSF REU Intern, *Center for Embedded Networked Sensing, UCLA*, Los Angeles, CA, 2011.

PROFESSIONAL ACTIVITIES

PC member for AAAI 2018 and reviewer for ICML 2016.

Organizer of the Graduate Theoretical Computer Science Seminar at the University of Illinois at Chicago.

Volunteered at conferences including KDD 2017.

Has given invited talks at Google Research, Microsoft Research, Princeton University, University of Illinois at Chicago, University of Melbourne, University of Utah, and others.

Member of ACM, SIAM, Sigma Xi, and Phi Beta Kappa.