Kristen M. Altenburger

Contact

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Citizenship: U.S. Citizen

Education

Stanford University
PhD, Management Science & Engineering, 2015–2019 (expected)
Thesis: "Machine Learning and Social Science for Fair and Private Data Products"
Committee: Johan Ugander (advisor), Daniel E. Ho, Ramesh Johari, and Philip Kegelmeyer
Graduate Fellow of Regulation, Evaluation, and Governance Lab (RegLab)
Stanford Data Science Scholar, 2018–2019
National Defense Science & Engineering Graduate (NDSEG) Fellowship, 2016-2019

Harvard University
AM, Statistics, 2015

Ohio University
BS, Mathematics, 2012, *summa cum laude*
Barry M. Goldwater Scholar, 2010

Employment

Research Scientist, Core Data Science, Facebook
Menlo Park, CA (upcoming, September 2019)

Publications

Altenburger, K.M., & Ho, D.E. Is Yelp Actually Cleaning Up the Restaurant Industry? A Re-Analysis on the Relative Usefulness of Consumer Reviews (WWW 2019; honorable mention for best poster).

Chin, A., Chen, S., **Altenburger, K.M.**, & Ugander, J. Decoupled Smoothing on Graphs (WWW 2019; oral presentation).

Altenburger, K.M., & Ho, D.E. (2018). When Algorithms Import Private Bias into Public Enforcement: The Promise and Limitations of Statistical De-Biasing Solutions. *Journal of Institutional and Theoretical Economics.*

Altenburger, K.M., & Ugander, J. (2018). Monophily in Social Networks Introduces Similarity among Friends-of-Friends. *Nature Human Behavior*, 2(4), 284.

Altenburger, K.M., De, R., Frazier, K., Avteniev, N., & Hamilton, J. (2017). Are There Gender Differences in Professional Self-Promotion? An Empirical Case Study of LinkedIn Profiles Among Recent MBA Graduates. In *Proc. 11th AAAI Int'l Conf. on Weblogs and Social Media (ICWSM)* (pp. 460-463).

Siegel, K., **Altenburger, K.**, Hon, Y. S., Lin, J., & Yu, C. (2015). PuzzleCluster: A Novel Unsupervised Clustering Algorithm for Binning DNA Fragments in Metagenomics. *Current Bioinformatics*, 10(2), 231-252.

Working Papers

Altenburger, K.M., & Ugander, J. Node Attribute Prediction: An Evaluation of Within- versus Across-Network Tasks.

Poster presentation at the Relational Representation Learning Workshop at NeurIPS 2018 and at the Second Workshop on Natural Language Processing and Computational Social Science at ACL (NLP+CSS) 2017.

Altenburger, K.M. Predicting Twitter Rumors with Conversation Network Structures.

Altenburger, K.M., Kegelmeyer, W.P., Pinar, A., & Wendt, J.D. A Community and Node Attribute-Corrected Stochastic Blockmodel.

Poster presentation at Joint Statistical Meetings (JSM) 2017.

Ongoing Work

Altenburger, K.M. & Ugander, J. The Network Structure of Missing Attributes.

Talk at the International Conference on Computational Social Science 2018.

Altenburger, K.M. A Principal Stratification Approach to Uncomplicate Causal Inference Complications on Social Networks.

Talk at the Conference on Digital Experimentation at MIT 2018. Poster presentations at the Atlantic Causal Inference Conference 2018 and at the SIAM Workshop on Network Science 2018.

Other Work Experience

Summer Intern, Social Science & Algorithms Team, **Netflix**
Los Gatos, CA (Summer 2017)

Analyzed word-of-mouth effects and other social signals.

Member of Technical Staff, Data Science & Cyber Analytics Dept., **Sandia National Laboratories**
Livermore, CA (2015–2016)

Developed a statistical network model to preserve node attribute interactions and community structure for adversarial applications. Work was recognized with internal lab award (*SPOT* Award). Assessed learning to rank approaches for cyber applications.

Summer Research Fellow, **Bayes Impact**
San Francisco, CA (Summer 2014)

Helped develop Bayes Impact research division focused on social impact projects. Identified collaborative project with the U.S. Department of Health's Scientific Registry of Transplant Recipients to model kidney organ offers.

Research Fellow, **Stanford Law School**
Stanford, CA (2012–2014)

Designed database and conducted statistical analysis for empirical evaluations of law and policy. Implemented retrospective evaluation of judicial clerkship employment process. Analyzed performance of a Bayesian time-series forecasting algorithm that identifies high-risk mines as part of a 3-year grant from The National Institute for Occupational Safety and Health.

Presentations (* presenting author)

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: Attribute Inference on Social Networks Beyond Homophily", Talk, Women in Analytics Conference in Columbus, OH, 2019.

Kristen M. Altenburger*, "Computational Social Science: The Role of Social in Social Theory, Social Medica, and Social Engineering", Talk, Stanford Data Science Institute in Stanford, CA, 2018.

Kristen M. Altenburger*, "A Principal Stratification Approach to Uncomplicate Causal Inference Complications on Social Networks", Talk, Conference on Digital Experimentation (CODE) in Boston, MA, 2018.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: Attribute Inference on Social Networks Beyond Homophily", Talk, Network Science Institute at Northeastern University in Boston, MA, 2018.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: When Can Private Attributes be Predicted on Social Networks?", Talk, Xerox PARC in Palo Alto, CA, 2018.

Kristen M. Altenburger* & Johan Ugander, "The Network Structure of Missing Attributes", Talk, International Conference on Computational Social Science in Evanston, IL, 2018.

Kristen M. Altenburger*, "A Principal Stratification Approach to Uncomplicate Causal Inference Complications on Social Networks", Poster, SIAM Workshop on Network Science in Portland, OR, 2018.

Kristen M. Altenburger*, "A Principal Stratification Approach to Uncomplicate Causal Inference Complications on Social Networks", Poster, Atlantic Causal Inference Conference in Pittsburgh, PA, 2018.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: When Can Private Attributes be Predicted on Social Networks?", Talk, Society & Algorithms Lab (SOAL) at Stanford, CA, 2018.

Kristen Altenburger, Philip Kegelmeyer, Ali Pinar, Jeremy D. Wendt, & Clifford Anderson-Bergman*, "A Community and Node Attribute-Corrected Stochastic Blockmodel", Poster, Joint Statistical Meetings Conference in Baltimore, MD, 2017.

Kristen M. Altenburger* & Johan Ugander, "The Role of Network Structure for Gender Prediction", Poster, Second Workshop on Natural Language Processing and Computational Social Science at ACL, 2017.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: When can gender be predicted on social networks?", Talk, Dean's Seminar Talk at Sandia National Laboratories in Livermore, CA, 2016.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: When can gender be predicted on social networks?", Talk, International Conference on Computational Social Science (IC2S2) in Evanston, IL, 2016.

Kristen M. Altenburger* & Johan Ugander, "Ruffled Feathers: When can gender be predicted on social networks?", Talk, SIAM Workshop on Network Science in Boston, MA, 2016.

Kristen M. Altenburger* & Andrew B. Hall, "Personal and Partisan Incumbency Effects in the Electoral Regression Discontinuity Design: A Principal- Stratification Approach", Poster, Women in Machine Learning Workshop at NeurIPS, 2015.

Services

Program Committee, Association for Computational Linguistics (ACL), 2019
Program Committee, Conference on Empirical Methods in Natural Language Processing and the International Joint Conference on Natural Language Processing (EMNLP-IJCNLP), 2019
Program Committee, Social Informatics (SocInfo), 2019
Program Committee, Workshop on Natural Language Processing and Computational Social Science (NAACL), 2019
Program Committee, ACM Conference on Web Science (WebSci), 2019
Program Committee, International World Wide Web Conference (WWW), 2019
Program Committee, International AAAI Conference on Web and Social Media (ICWSM), 2019
Program Committee, International World Wide Web Conference (WWW), 2018
Program Committee, International AAAI Conference on Web and Social Media (ICWSM), 2018
Program Committee, International Conference on Computational Social Science (IC2S2), 2017
Program Committee, Workshop on Natural Language Processing and Computational Social Science (ACL), 2017
Journal Reviewer for Big Data & Society (BD&S)

Journal Reviewer for Science Advances

Undergraduate Students Advised

Naomi Eigbe (Stanford Center for the Study of Language and Information Summer Program, 2018)

Teaching (guest lectured)

MS&E190: Methods and Models for Strategy and Policy Analysis (Stanford University, Spring 2017, 2018, 2019)

Research Awards

Brown Institute for Media Innovation Magic Grant for joint research between engineers and journalists on a crowdsourcing approach to analyze coral reef health (2016-2017).

LinkedIn Economic Graph Challenge Award for joint research on analyzing gender differences in self-presentation, revisiting the feminine modesty effect in a modern digital setting (2015).

Press Coverage

Food Safety News, "Can Silicon Valley save food safety? Maybe, but not with online reviews alone", 2019.
Scientific American, "Friends of Friends Can Reveal Hidden Information about a Person", 2018.
Rewire, "How Friends of Your Friends Give Away Your Private Info Online", 2018.
LinkedIn Engineering Blog, "Economic Graph Research Program: Insights and Updates", 2018.
LinkedIn Engineering Blog, "Measuring Gender Diversity with Data from LinkedIn", 2015.

Other Awards

2018–2019	Stanford Data Science Scholar
2016–2019	National Defense Science & Engineering Graduate Fellowship
2016	SPOT Award Recipient at Sandia National Laboratories
2012	Wolfe Award for Phi Beta Kappa inductee with highest GPA
2009, 2010	National Goldwater Scholar
2010	Ohio University Provost Undergraduate Research Fund Recipient
2010	Sarah Parks Divine Mathematics Scholarship
2009–2012	Ohio Board of Regents Academic Scholarship
2008–2012	Ohio University Athletic Scholarship
2008–2010	Ohio University Cross Country and Track Varsity Letter Winner

Coursework (Stanford)

Quantitative Methods for Empirical Research (MGTECON 640); The Structure of Social Data (MS&E 334); Social Interaction and Group Process (SOC 370B); Introduction to Statistical Modeling (STATS 305); Methods for Applied Statistics (STATS 306A); Design of Experiments (STATS 363); Modern Applied Statistics: Data Mining (STATS 315B).