Andrew J. Sage

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COLLEGE FACULTY POSITIONS

Lawrence University, Appleton, WI
Assistant Professor of Statistics   2018-present

EDUCATION

Iowa State University, Ames, IA
Degree: Ph.D. in Statistics   2018
Dissertation Title: *Random forest robustness, variable importance and tree aggregation*
Advisors: Ulrike Genschel, Dan Nettleton

Iowa State University, Ames, IA
Degree: M.S. in Statistics   2015
Master's Project: *Predicting student retention in STEM: A random forest based approach*
Advisor: Dan Nettleton

Miami University, Oxford, OH
Degree: M.S. in Mathematics   2013
Master's Project: *Calculation of cell bounds for contingency tables from rounded conditional frequencies*
Advisor: Stephen Wright

The College of Wooster, Wooster, OH
Degree: B.A. in Mathematics   2007
Summa Cum Laude

TEACHING EXPERIENCE   (Term & Year)

Lawrence University, Appleton, WI
Assistant professor of statistics

▪ STAT 107: Principles of Statistics	F18, W19, S19, F19, S20
▪ CMSC/STAT: Data-Scientific Programming	W20, W21
▪ STAT 255: Statistics for Data Science	F20
▪ STAT 455: Advanced Statistical Modeling	W21

- STAT 450: Bayesian Statistics   S20
- MATH 430: Statistical Modeling   W19
- MATH 240: Probability   F18
- FRST 100: First-Year Studies   F19, F20

Iowa State University, Ames, IA
Graduate teaching assistant, Department of Statistics
Courses taught as instructor:
- STAT 231: Probability and Statistics for Engineering   S17, F18, S18
- STAT 330: Probability and Statistics for Computer Science   F16
- STAT 104: Introductory Statistics   F14
- Lab instructor for STAT 421 Survey Sampling Techniques   S14

Miami University, Oxford, OH
Graduate teaching assistant, Department of Mathematics
Courses taught as instructor:
- Math 151: Calculus I   S13
- Math 123: Precalculus   F11, S12, F12

Bloomfield High School, North Bloomfield, OH   2007-11
High school mathematics teacher

Ashtabula County Joint Vocational School, Jefferson, OH   2007-08
High school mathematics summer school teacher

PEER-REVIEWED PUBLICATIONS

Sage, A.J., Genschel, U., Nettleton, D. (2021). A Residual-Based Approach to Robust Random Forest Regression. *Statistics and its Interface* (accepted).

Sage, A.J., Genschel, U., Nettleton, D. (2020). Tree aggregation for random forest class probability estimation. *Statistical Analysis and Data Mining: The ASA Data Science Journal.* 13(2), 134-150.

Sage, A.J., Cervato, C., Genschel, U., Ogilvie, C., (2018). Combining academics and social engagement: a major-specific early alert method to counter student attrition in STEM. *Journal of College Student Retention: Research, Theory, and Practice.* 1521025118780502.

Sage, A. J., & Wright, S. E. (2016). Obtaining cell counts for contingency tables from rounded conditional frequencies. *European Journal of Operational Research*, *250*(1), 91-100.

SUBMITTED WORKS

Smith, J., Sage, A. J., McGlenn[+], M., Robbins[*], J., Garmon[*], S., (2021) Is Sexual Racism Really Racism in the U.S.? Revisiting Callander et al. Five Years Later.

[+] denotes student author whom I advised,
[*] denotes student author not advised by me

GRANTS RECEIVED

Sage, A.J. (primary investigator), Del Toro, I., Oesper, L., Weinman, J., Exploring solutions for high performance computing at ACM institutions, Associated Colleges of the Midwest Faculty Career Enhancement grant, $25,637

MENTORING

Lawrence University Chandler Senior Experiences advised (graduation year)
- Johanna Kopecky (2021)
- Qinlan Lyu (2021)
- Amanda Karnatz (2020)
- Tyler Kujawa (2020) – advised jointly with Jonathan Lhost
- Katherine Liu (2020)
- Joe Sato (2020)
- Chase Wiedemann (2020) – advised jointly with Jonathan Lhost
- Theo Arden (2019)
- Kirsey Fam (2019)
- Yuta Hayashi (2019)
- Sang Le (2019)
- Son Tong (2019)
- Linder Wendt (2019)
- Shawn Zhang (2019)
- Yifan Zhang (2019)

Lawrence University Summer Research Fellows
- Maggie McGlenn (2020) – advised jointly with Jesus Smith
- Johanna Kopecky (2019)
- Katherine Liu (2019)
- Joe Sato (2019)

SERVICE

- Reviewer for *SIAM Undergraduate Research Online* article, 2018
- Reviewer for *Numeracy* article, 2019
- Judge for Undergraduate Statistics Project Competition (USPROC), Fall 2018, Spring 2019, Spring 2020
- Lawrence University Internal Review Board, 2019-20
- Lawrence University First-Year Studies Committee, 2020-21

- Lawrence University sustained dialogue facilitator (trained January 2019), 2019-present

AWARDS/ SCHOLARLY ACHIEVEMENTS

- Graduate Student Teaching Award, Department of Statistics, Iowa State University — 2018
- Effective Graduate Teaching Award, Department of Mathematics, Miami University — 2013
- SIAM Graduate Student Award, Department of Mathematics, Miami University — 2013
- Phi Beta Kappa, Inducted at College of Wooster — 2006

PRESENTATIONS

"A Robust Residual Based Approach to Random Forest Regression"
Contributed poster, Conference on Predictive Inference and its Applications, Ames IA, May 7, 2018

"A Robust Residual Based Approach to Random Forest Regression"
Contributed speed talk and poster, Joint Statistical Meetings, Baltimore MD, August 3, 2017

"Random Forest Variable Importance"
Research Talk for Dordt College Statistical Genetics and Biostatistics Summer Research group visit to Iowa State University, Ames IA, June 29, 2017

"Impact of Working with Real Data on Perceptions of the Importance of Statistical Inference"
Reviewed Poster, US Conference on Teaching Statistics, State College PA, May 19, 2017

"Retention of Students in STEM: An Early Alert Project"
Iowa State Advising Summit, April 28, 2017

"A Walk Through a Random Forest"
Invited Talk, Dordt College, Sioux Center, IA, March 23, 2017

"Predicting Student Retention in STEM Majors"
Joint Statistical Meetings, Seattle WA, contributed talk, August 10, 2015

"Adaptive Survey Design"
Survey Working Group, Iowa State University, March 14, 2014

"The Factoring Likelihood Approach for Maximum Likelihood Estimation in Cases of Missing Data"
Survey Working Group, Iowa State University, November 20, 2013

"The Effect of Rounding on Disclosure in Contingency Tables"
ASA Iowa Chapter Conference, Ames IA, poster presentation, November 1, 2013

CONFERENCES / PROFESSIONAL DEVELOPMENT

- High Performance Computing Mindshare, Swarthmore PA, January 7-8, 2020
- Joint Statistical Meetings, Denver, CO, 2019
- US Conference on Teaching Statistics, State College PA, 2019
- Inclusive Excellence in the Sciences Retreat, Lawrence University, February 8-9, 2019
- Preparing to Teach Workshop, Vancouver, British Columbia, July 28, 2018
- Conference on Predictive Inference and its Applications, Ames IA, 2018
- Preparing Future Faculty Fellow, Iowa State University, 2016-18
- Team-Based Learning Workshop, Center for Excellence in Learning & Teaching, Iowa State University, Spring 2018
- Project LEA/RN Beginners Learning Group, Iowa State University, 2017-18
- Project LEA/RN Workshop, Iowa State University, May 9-10, 2017
- Joint Statistical Meetings, Baltimore, MD, 2017
- US Conference on Teaching Statistics, State College PA, 2017
- Joint Statistical Meetings, Seattle WA, 2015
- American Statistical Association Member