

# Karsten Tait Maurer

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## CONTACT INFORMATION

Department of Statistics  
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## EDUCATION

Ph.D., Statistics, August 2015  
Iowa State University, Ames IA  
  
M.S., Statistics, December 2011  
Iowa State University, Ames IA  
  
B.A., Statistics and History, May 2009  
Minor in Mathematics, Graduated with Distinction  
University of Minnesota Morris, Morris MN

## HONORS/ AWARDS

CAS Armstrong Interactive Media Studies Endowed Professor	Fall 2018 - Present
1 <sup>st</sup> Place Award for Short Paper in ICMLA Proceedings	Fall 2019
Faculty Mentor to Ben Schwietzer - 2 <sup>nd</sup> Place ASA Data Expo	Summer 2019
Faculty Mentor to Alison Tuiyott - 3 <sup>rd</sup> Place ASA Data Expo	Summer 2019
ISU Statistics Award for Undergraduate Mentoring	Fall 2013 & 2014
2 <sup>nd</sup> Place ASA Data Expo - Teammates: Adam Loy, Dave Osthus	Summer 2013
ISU Statistics Alumni Scholarship	Fall 2009 - Spring 2010
University of Minnesota Morris Chancellor's Scholarship	Fall 2005 - Spring 2009
University of Minnesota Morris Dean's List	Fall 2005 - Spring 2009

## TEACHING EXPERIENCE

<i>Assistant Professor</i>	Fall 2015 - Present
Miami University, Oxford OH	
<ul style="list-style-type: none"><li>• STA 301, Applied Statistics (1 Section)</li><li>• STA 402/502, Statistical Programming (1 Section)</li><li>• STA/IMS/JRN 404/504, Advanced Data Visualization (12 Sections)</li><li>• STA 466/566, Design of Experiments (2 Sections)</li><li>• STA 467/567, Statistical Learning (3 Sections)</li><li>• STA 477/480/600, Independent Studies in Statistics (14 students)</li><li>• STA 650, Topics in Statistics: Statistical Computing (1 Section)</li><li>• STA 660, Data Practicum (1 Section - Co-taught)</li><li>• STA 671, Environmental Statistics (1 Section)</li></ul>	

<i>Course Instructor</i>	Fall 2012 - Summer 2015
Iowa State University, Ames IA	
<ul style="list-style-type: none"><li>• Statistics 104, Introduction to Statistics (6 Sections)</li><li>• Statistics 305, Engineering Statistics (3 Sections)</li><li>• "A Week of R" Workshops (7 Sections)</li></ul>	

## UNDERGRAD RESEARCH ADVISING

- Yuexi Wang - coding and results organization for computational experiments evaluating machine learning algorithms
- Robert Garrett & Austin Nar - Developed/Published `ggvoronoi` R Package for CRAN and JOSS publication

- Alison Tuiyott, Ben Schweitzer & Lydia Carter - Data Expo Challenge projects and currently advising on drafts of resulting invited publications

## GRADUATE RESEARCH ADVISING

- Sally Dufek (current) - Adversarial algorithms within active learning
- Paul Gunsalus (current) - Predictive models for college athletics
- Josh Morgan (current) - Embedding based image classifiers using active learning
- Bunyodjon Tusmatov – Adversarial text processing within active learning
- Matt Misterka – Edu. Research on student engagement
- George Woodbury (co-advised) - Visual inference without crowdsourcing
- David Swart (co-advised) - Edu. Research on homework design
- Gongmei Li - Variable selection for KNN approximation algorithm
- Rey Ducay - Ensemble classifier voting algorithms
- Chalie Liu (co-advised) - Efficient leverage-based sampling methods

## SPONSORED RESEARCH

ASA-NCTM Joint Committee [\$11750] - K12 Educators Workshop	Summer 2020
Armstrong Endowment [\$7500] - AIMS Collaborative Research	Summer 2019
Air Force Research Lab [\$10000] - Research Extension Grant	Fall 2018
Air Force Research Lab [\$15500] - Visiting Faculty Researcher	Summer 2018
Miami University [\$5000] - CAS Summer Research Appointment	Forgone 2018
Miami University [\$5000] - CFR Summer Research Appointment	Summer 2017
Air Force Research Lab [\$21500] - Summer Faculty Fellowship	Summer 2016

## PEER REVIEWED PUBLICATION

\*student author

**Maurer K.**, Bennette W., *Facility Locations Utility for Uncovering Classifier Over-confidence* (International Conference on Machine Learning and Applications – competitive, blinded peer review process – awarded 1<sup>st</sup> place (of 60) awarded in short paper category *In-Press*)

**Maurer K.**, Hudiburgh L., Werwinski L., *What do Students Gain from Games? Dice Game vs. Word Problems* (Teaching Statistics - *In-Press*)

**Maurer K.** Hudiburgh L., Werwinski L., Bailer A.J., (2019) *Content Audit for P-value Principles in Introductory Statistics* (The American Statistician – 2900+ views, 3 citations)

**Maurer K.** Osthus D., Loy A., (2019) *A tale of four cities: exploring the soul of State College, Detroit, Milledgeville and Biloxi* (Computational Statistics – 64 downloads)

Garrett R.\*, Nar A.\*, Fisher T., **Maurer K.**, (2018) *ggvoronoi: Voronoi Diagrams and Heatmaps with ggplot2* (Journal of Open Source Software, 3(32) – 8300+ package downloads from CRAN)

Alessio H., **Maurer K.**, (2018) *The Impact of Video Proctoring in Online Courses* (Journal on Excellence in College Teaching, 29(34))

Alessio H., Malay N., **Maurer K.**, Bailer J., Rubin B., (2018) *Interaction of Proctoring and Student Major on Online Test Performance* (The International Review of Research in Open and Distributed Learning)

Miljkovic T., Miljkovic D., **Maurer K.**, (2018) *Examining the Impact on Mortality Arising from Climate Change: Important Findings for the Insurance Industry* (European Actuarial Journal – 150+ downloads)

Alessio H., Malay N., **Maurer K.**, Bailer J., Rubin B. (2017), *Examining the Effect of Proctoring on Online Test Scores* (Online Learning Journal – 12 citations)

**Maurer K.**, Lock D. (2016), *Comparison of Learning Outcomes for Randomization-Based and Traditional Inference Curricula in a Designed Educational Experiment* (Technology Innovations in Statistics Education, Volume 8 – 1400+ views, 400+ downloads, 7 citations)

Anderson J., Burks S., Carpenter J., Goette L., **Maurer K.**, Nosenzo D., Potter R., Rocha K., Rustichini A., (2013) *Self-selection and variations in the laboratory measurement of other-regarding preferences across subject pools: evidence from one college student and two adult samples* (Experimental Economics, 16(2) – 71 citations)

**MANUSCRIPTS  
SUBMITTED  
FOR PEER  
REVIEW**

**\*student author**

**Maurer K.**, Hofmann H., *A shiny Opportunity to Interact with Large Databases in Introductory Statistics* (Technology Innovations in Statistics Education - *in revision*)

**Maurer K.**, *Iterative Quantile Nearest-Neighbors* (Computational Statistics and Data Analysis - *in revision*)

Bennette W., **Maurer K.**, Sisti S. *Harnessing Adversarial Distances to Uncover Overconfident Unknown Unknowns* (IEEE World Congress on Computational Intelligence – competitive, blinded peer review process – *submitted*)

**MANUSCRIPTS  
IN  
PREPARATION**

Swart D.\*, Hudiburgh L., **Maurer K.**, Smucker B., *Comparing Instructor Created vs. Externally Created Homework Assignments And Their Effects On Exam Scores*

Schweitzer B.\*, Garrett R.\*, Carter L.\*, Tuiyott A.\*, Fisher T., **Maurer K.**, *An Analysis of Rent Control Impact on New York City Housing Quality.* (2<sup>nd</sup> Place ASA Data Expo Challenge Invited Paper to Computational Statistics)

Tuiyott A.\*, Garrett R.\*, Carter L.\*, Schweitzer B.\*, **Maurer K.**, Fisher T., *Mapping Immigrant Residency and Happiness in New York City.* (3<sup>rd</sup> Place ASA Data Expo Challenge Invited Paper to Computational Statistics)

Bennette W., **Maurer K.**, Sisti S., Dufek S.\*, Tusmatov B.\*, *Generalizations of Adversarial Distance in Identification of Unknown Unknowns*

Morgan J.\*, Femiani J., **Maurer K.**, *Embedding Based Image Classifiers in an Active Learning Framework*

Garrett R.\*, Fisher T., **Maurer K.**, *Voronoi Applications in Data Science*

Coyle J., **Maurer K.**, *Disruptive Webpage Elements, an Eye-Tracking Experiment.* (target - Journal of Interactive Marketing)

Davis A., Fain J., Fritz K., Golden H., Grudzinski B., Johnson B., Keng Vang T., Lane C., Levy J., **Maurer K.**, Newcomer-Johnson T., McCarty J., Rech J., *Meta-Analysis of Ecological Impact of Beaver Dams*

Scarborough D., **Maurer K.**, Bailey-Van Kuren M., Pax L.\*, Summerford M.\*, *Evaluating Baby Food Manufacturer Stages Through IDSSI Protocol*

<b>PRESENTATION</b>	<i>“Lady Tasting Tea Lineup Plots for Visual Inference”</i>	July 2019
	Joint Statistical Meetings, Denver CO	
	<i>“Iterative Quantile Nearest-Neighbors”</i>	July 2018
	Joint Statistical Meetings, Vancouver BC	
	<i>“Fantasy Basketball For Statistical Learning”</i>	May 2018
	Electronic Conference on Teaching Statistics, Online	
	<i>“Bin-Weighted Ensemble Classifiers”</i>	July 2017
	Joint Statistical Meetings, Baltimore MD	
	<i>“Traditional vs. Simulation-Based: Curricula Comparison in a Small Scale Educational Experiment”</i>	August 2016
	Joint Statistical Meetings, Chicago IL	
	<i>“Comparison of Learning Outcomes from Traditional and Randomization-Based Inference Curricula in a Designed Experiment”</i>	August 2014
	Joint Statistical Meetings, Boston MA	
	<i>“A Shiny New Opportunity for Big Data in Statistics Education”</i>	July 2014
	International Conference on Teaching Statistics, Flagstaff AZ	
	<i>“Locating the Heart of the Community”</i>	August 2013
	Joint Statistical Meetings, Montreal QC	
	<i>“Using R to Construct a Graphical User Interface for an Interactive Fitness Log”</i>	August 2011
	Joint Statistical Meetings, Miami FL	
<b>DEPARTMENT SERVICE</b>	<i>Coordinator</i> , Departmental Colloquia	Fall 2019
	<i>Member</i> , Dept of Statistics TCPL Hiring Committee	Spring 2018
	<i>Member</i> , Dept of Statistics Undergrad Curriculum Committee	Spring 2018
	<i>Advisor</i> , Undergraduate Academic Advisor (70 students)	Fall 2017 - Present
	<i>Advisor</i> , Undergraduate Researchers (6 students)	Fall 2016 - Present
	<i>Advisor</i> , Graduate Researchers (10 students)	Fall 2016 - Present
	<i>Member</i> , Dept of Statistics Grad Ed Committee	Fall 2016 - Present
	<i>Member</i> , Dept of Statistics Hiring Search Committee	Fall 2016
	<i>Member</i> , Graduate Project Defense Committee (19 students)	Spring 2016 - Present
<b>UNIVERSITY SERVICE</b>	<i>Team Mentor</i> , CADS Undergrad Experiential Client Project	Fall 2019 - Present
	<i>Member</i> , CAS Committee on Big Ideas in Digital Media	Spring 2018
	<i>Volunteer</i> , Bridges for underrepresented students into STEM	Fall 2017-2019
	<i>Panelist</i> , Students Together Empowering Minorities Conversation Series	Fall 2017
	<i>Panelist</i> , New Faculty Orientation Panel	Fall 2016
	<i>Volunteer</i> , Careers Involving Quantitative Science (CIQS) Day	Spring 2016-2018
	<i>Member</i> , Miami Datafest Committee	Fall 2015 - Present

<b>PROFESSIONAL SERVICE</b>	<i>Judge, Undergraduate Research Project Competition</i>	Summer 2016
	<i>Peer Reviewer, Journal for Statistical Education</i>	Spring 2016 - Present
	<i>Peer Reviewer, The American Statistician</i>	Winter 2015
	<i>Member, Miami Datafest Committee</i>	Fall 2015 - Present
<b>COMMUNITY SERVICE</b>	<i>Instructor, Client Data Visualization Projects</i>	Fall 2015 - Spring 2017
	• Miami EHWB - Gym and Benefit Usage App	
	• Cincinnati Shakespeare Co. - Ticket Sales App (Redesign)	
	• Butler County Health - Interactive Infant Mortality Report App	
	• St. Louis County EMS - Emergency Response Times App	
	• Scripps Gerontology Center - Nursing Facility Survey App	
<b>OTHER EXPERIENCE</b>	<i>Member, Miami University New Faculty Research Community</i>	Fall 2016
	<i>Member, Miami University Teaching Enhancement Prog.</i>	Fall 2015 - Spring 2016
	<i>Member, ISU Graphics Working Group</i>	Fall 2009 - Summer 2015
	<i>Coordinator, ISU Graphics Working Group Speaker Series</i>	Spring 2014
	<i>Advisor, Midwest Undergraduate Data Analytics Comp.</i>	Spring 2013 and 2014
	<i>Attendee, Collaborative Undergraduate Research Workshop</i>	Fall 2014
	<i>Treasurer, STAT-ers Graduate Student Club</i>	Fall 2012 - Summer 2013
	<i>Consultant, ISU Survey and Behavioral Research Services</i>	Fall 2011 - Spring 2012
	<i>Online Homework Assistant, Stat 101 at ISU</i>	Fall 2010 - Summer 2011
	<i>Associate Researcher, UMM Trucking Safety Project</i>	Summer 2010
	<i>Lab Instructor, Stat 101 at ISU</i>	Fall 2009 - Spring 2010