Kiegan E. Rice

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EDUCATION	**Iowa State University**	Ames, IA
	Ph.D., Statistics	*August 2015 - August 2020*
	Major Professors: Heike Hofmann, Ulrike Genschel	
	Defense Date: May 5, 2020	
	M.Sc., Statistics, December 2017	
	St. Olaf College	Northfield, MN
	B.A., Mathematics and Spanish, May 2015	*September 2011 - May 2015*
	Statistics concentration	
RESEARCH INTERESTS	Reproducible Data Science Pipelines, Statistical Applications in Forensic Evidence, Data Visualization, Statistical & Machine Learning, Interactive Statistical Graphics, Data Journalism	
HONORS & AWARDS	*Second Prize, Springer Poster Competition*, SimStat 2019	
	Awarded September 2019	
	First Place, Research Poster Competition, CSAFE Annual Meeting	
	Awarded May 2019	
	Second Place, Research Poster Competition, CSAFE Annual Meeting	
	Awarded June 2018	
	Kleber Scholarship, Dept. of Statistics, Iowa State University	
	Awarded Fall 2015	

LEADERSHIP EXPERIENCE	**President, Iowa State STATCOM**	*May 2019 - present*
	Coordinate communications with potential clients, organize and lead consulting projects, and conduct community outreach for the Iowa State chapter of STATCOM (STATistics in the COMmunity).	
	Executive Board, Iowa State STATCOM	*Spring 2019*
	Helped lead volunteer statistical consulting projects for the Iowa State chapter of STATCOM (STATistics in the COMmunity).	
	Organizer, Graphics Working Group	*Fall 2018, Spring 2019*
	Coordinated and led weekly meetings – through assigning readings or inviting speakers – on topics of graphical inference, data visualization and computing tools.	
	Organizer, CSAFE Working Group, *with Samantha Tyner*	*Fall 2017*
	Coordinated and led weekly meetings – through assigning readings or inviting speakers – on statistical topics in forensics, law, and criminal justice. Included speakers from forensic laboratories and partner institutions.	

TEACHING EXPERIENCE	**Iowa State University** *Instructor, Introduction to Business Statistics*	Ames, IA *Spring 2017, Fall 2017*

          – Lectured twice weekly to an 80-student class
          – Developed and led in-class practice problem sessions
          – Wrote and graded weekly quizzes
          – Wrote one full homework assignment a semester
          – Co-wrote and graded one midterm exam and final exam

Instructor, The Sky's the Limit Learning Community   *Fall 2016, Fall 2017*

          – Developed semester-long curriculum for "Bringing Numbers to Life" section
          – Created in-class team building activities for 15-student class
          – Created in-class career exploration activities
          – Coordinated guest speakers to present on how numbers are used in various
            fields, including forensics, sports, public health, and astrophysics
          – Led in-class discussions about numbers in various fields
          – Worked with two undergraduate peer mentors to advise first-year students

Lab Instructor, Business Statistics II   *Fall 2016*

          – Led weekly computer lab sessions with 40 students
          – Graded weekly lab assignments
          – Proctored and graded midterm and final exams

Co-Instructor, OPPTAG Explorations: Discovering Forensics   *July 2017*

          – Developed week-long curriculum on numbers in forensic science for gifted
            students from low-income communities entering grades 9–11
          – Gave presentations on forensic evidence to a 15-student class
          – Led hands-on forensic evidence activities with small groups of students
          – Created a mock crime scene and evidence for students to analyze
          – Coordinated meeting with lawyer for students to present the findings
            of their evidence analysis process

Guest Co-Instructor, STEMversity   *June 2018*

          – Helped lead a two-day workshop on Statistics and Probability in Forensic
            Science for middle school students from historically under-represented
            demographic groups.

RESEARCH EXPERIENCE	**Iowa State University** *Research Assistant, CSAFE*	Ames, IA *May 2017 - present*

      Research: Work at the Center for Statistics and Applications in Forensic
      Evidence (CSAFE) on methods for automated matching of bullet lands
      under the supervision of Drs. Ulrike Genschel and Heike Hofmann.

      Outreach: Develop materials to teach non-statistical audiences statistical
      concepts that are useful in forensic science.

Research Assistant, ASPM Project   *August 2015 - August 2016*

> Worked on the Algebra Screening and Progress Monitoring (ASPM) Project in the School of Education, under the supervision of Dr. Amy Froelich. Visualized data and used item response theory to assess efficacy of new algebra screening measures.

TECHNICAL REPORTS	**Iowa State University,** **Algebra Screening and Progress Monitoring Project** Genareo, V., Olson, J., Foegen, A, Dougherty, B., Spain, V., DeLeeuw, B., Nashleanas, A., Froelich, A., & **Rice, K.** (2017). Algebra Screening and Progress Monitoring data: 2011-1012 (Technical Report 1). Ames, IA: Iowa State University, School of Education, Algebra Screening and Progress Monitoring Project. Genareo, V., Nashleanas, A., Olson, J., Foegen, A, Dougherty, B., DeLeeuw, B., Froelich, A., **Rice, K.**, & Karaman, R. (2017). Algebra Screening and Progress Monitoring data: 2012-1013 (Technical Report 2). Ames, IA: Iowa State University, School of Education, Algebra Screening and Progress Monitoring Project.
PAPERS	Walczak, M., Ziegler-Graham, K., Richards, M., **Rice, K.**, Berry, E., Henry, K.: Course Taking Patterns and Pathways Through STEM, *Journal of STEM Education: Innovations and Research*, accepted September 2019. Rice, K., Genschel, U., Hofmann, H.: A Robust Approach to Automatically Locating Grooves in 3D Bullet Land Scans, *Journal of Forensic Sciences*. May 2020. doi: 10.1111/1556-4029.14263 **In Preparation** Rice, K., Garton, N., Genschel, U., Hofmann, H.: Statistical Approaches to Automated Groove Engraved Area Identification in 3D Bullet Land Scans Rice, K., Genschel, U., Hofmann, H.: Repeatability and Reproducibility of High-Resolution 3D Bullet Land Scanning Process Rice, K., Genschel, U., Hofmann, H.: Extending Gauge Repeatability and Reproducibility Framework to Complex Data Structures Rice, K., Hofmann, H.: A Paradigm for Managing Computational Reproducibility in a Changing Software Package Landscape
BOOKS	**In Preparation** Rice, K., Carriquiry, A., Stern, H.: Statistics and Forensic Science. A book in the ASA-CRC Series on Statistical Reasoning in Science and Society.
CONFERENCE PRESENTATIONS	**Symposium on Data Science and Statistics (SDSS)** Virtual *Presentation Session* *June 2020* "A Paradigm for Managing Computational Reproducibility in a Changing Software Package Landscape"

Int. Workshop on Simulation and Statistics (SimStat) Salzburg, Austria
Poster Session *September 2019*
"Reproducibility of High-Resolution 3D Bullet Scans
  and Automated Bullet Matching Scores"

Joint Statistical Meetings Denver, CO
Poster Session *July 2019*
"Repeatability and Reproducibility of Automated Bullet
  Comparisons using High-Resolution 3D Scans"

Association of Firearms and Toolmark Examiners Nashville, TN
Technical Session *May 2019*
"Reproducibility of Automated Bullet Matching Scores Using
  High-Resolution 3D LEA Scans"

American Academy of Forensic Sciences Annual Meet. Baltimore, MD
Presentation Session *February 2019*
"Validation Study on Automated Groove Detection Methods
  in 3D Bullet Land Scans"

Joint Statistical Meetings Vancouver, BC, Canada
Presentation Session *August 2018*
"Methods for Automatic Groove Identification in 3D Bullet Land Scans"

Association of Firearms and Toolmark Examiners Charleston, WV
Poster Session *June 2018*
"Methods for Automatic Groove Identification in 3D Bullet Land Scans"

American Academy of Forensic Sciences Annual Meet. Seattle, WA
Presentation Session *February 2018*
"Automatic groove identification in 3D bullet land scans"

National Conference on Undergraduate Research Spokane, WA
Presentation Session *April 2015*
"STEM Trajectories and Persistence at St. Olaf College"
  with Bosak, E. and Richards, M.

National Conference on Undergraduate Research Lexington, KY
Poster Session *April 2014*
"An analysis of zebra mussel spread in the continental United States"
  with Scott, T.

COMPUTING **Expertise:** R/RStudio, Shiny, LaTeX, RMarkdown, GitHub
SKILLS **Familiarity:** SAS, Python, HTML/CSS