Daniel Ries

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EDUCATION

PhD in Statistics **2017**
Iowa State University, Ames, IA
Thesis: Bayesian Measurement Error Modeling of Energy Balance and Physical Activity Data

Master of Business Administration **2021**
University of New Mexico, Albuquerque, NM

MS in Statistics **2015**
Iowa State University, Ames, IA

BS in Economics **2013**
University of Minnesota, Minneapolis, MN
University of St. Gallen, St. Gallen, Switzerland--Semester Exchange

PROFESSIONAL EXPERIENCE

Senior Statistician **January 2018-Present**
Sandia National Laboratories, Albuquerque, NM

- Developed functional inverse prediction method for nuclear forensics
- Operationalized Bayesian neural networks for target detection
- Researched new functional calibration method for computer model parameter estimation
- Created new statistical methodology for to support Sandia's mission
- Design and analyzed small sample experiments

PhD Intern **Summer 2016**
Pacific Northwest National Laboratory, Richland WA

- Developed statistical methods to predict rapid intensification (RI) events for hurricanes
- Implemented statistical and machine learning methods to classify "events" in streaming image data from electron microscopes

Intern **Summer 2014**
Windlogics, St. Paul, MN

- Developed automated daily wind energy trade report and Shiny app to be to be used by traders at NextEra Energy
- Wrote python code to scrape weather data from internet and daily spreadsheets
- Taught R and kntir to non-proficient group members

Controller **2012-2013**
The Minnesota Daily, Minneapolis, MN

- Managed all accounting and financial operations within the $1.5 million revenue, 200 employee company
- Presented state of company's financials monthly to Board of Directors
- Supervised two finance department employees

LEADERSHIP AND INVOLVEMENT

Instructor **2014-2016**
Iowa State University, Ames, IA

- Lectured one section of introductory statistics (class size ~80) in each of four semesters
- Wrote and graded all exams, assigned final course grades
- Led group review sessions and office hours

Committee on Instruction, *Department of Statistics, Iowa State University* **2015-2016**

Advisory Committee to the Chair, *Department of Statistics, Iowa State University* **2013-2015**

RESEARCH EXPERIENCE

Thesis **2015-Present**
Iowa State University, Ames, IA

- Created Reversible Jump MCMC sampler for measurement error modeling to calibrate for bias between observed and truth in energy balance measurements
- Developed Bayesian two-part model to assess compliance to US Physical Activity Guidelines

Research Assistant **2015-Present**
Iowa State University, Ames, IA

- Applied Bayesian GLMMs to automobile crash data from Iowa DOT to aid in future planning
- Used PCA and LASSO to understand relationships between presence of bacteria and nitrogen rates

PUBLICATIONS

Modeling Energy Balance while Correcting for Measurement Error via Free Knot Splines **2015-Present**
Ries D, Carriquiry A, Shook R (2018) Modeling energy balance while correcting for measurement error via free knot splines. PLoS ONE 13(8): e0201892. https://doi.org/10.1371/journal.pone.0201892

PRESENTATIONS

Joint Statistical Meetings, *Vancouver BC* **July 2018**
Contributed Talk
The Relationship between Moderate to Vigorous Physical Activity and Metabolic Syndrome: A Bayesian Measurement Error Approach

Nuclear Materials Science, Processing and Signature Discovery Workshop, *Richland WA* **May 2018**
Utilizing Distributional Measurements of Material Characteristics from SEM Images for Inverse Prediction

Joint Statistical Meetings, *Baltimore MD* **July 2017**
Contributed Talk
A Bayesian Two-Part Model with Measurement Error: Assessing Adult Moderate to Vigorous Activity and Compliance to 2008 Physical Activity Guidelines

Pacific Northwest National Laboratory, *Richland WA* **July 2016**
Predicting Rapid Intensification Events of Tropical Cyclones using an Ensemble of Predictive Statistical Methods

Pacific Northwest National Laboratory, *Richland WA* **June 2016**
Measuring Energy Intake via Energy Balance Principle while Accounting for Measurement Error

Joint Statistical Meetings, *Seattle WA* **August 2015**
Poster Presentation
Spatial Prediction: The Importance of the Nugget

AWARDS

Young Researcher Scholarship for the Third Short Course on Mathematical Sciences in Obesity Research, *University of Alabama-Birmingham* **2016**

Teaching Excellence Award, *Department of Statistics, Iowa State University* **2016**

Professional Development Grant, *Iowa State University* **2015**

UnitedHealth Group Actuarial Scholarship, *University of Minnesota* **2012-2013**

Boy Scouts of America **2008**
Eagle Scout, Philmont Scout Ranch employee

COMPUTING SKILLS

Programming: R, Python, SAS, C++, C, SQL, Git (Experience in Linux environment)
Statistical Software: Stan, JAGS, JMP

PERSONAL INTERESTS

I am an avid outdoors person. I love downhill skiing, hiking, fishing, camping and backpacking. I enjoy being active and enjoy playing team sports ranging from volleyball to broomball.