Tedward Erker

Madison, WI
(314) 324 6079
tedward.erker@gmail.com
stat.wisc.edu/ erker/
tedwarderker

Summary of Qualifications and Skills

Biometry M.S. and Forestry Ph.D. (expected spring 2019) with 5 years of research and data analysis experience and 2 years of high school teaching experience. Comfortable with a wide range of statistical methods including generalized linear models and tree-based methods. Driven to understand complex problems and distill key findings for nonexpert audiences via fully reproducible reports and compelling figures. Independently motivated. A positive, constructive team member and leader. Passionate about working in education.

Experience

2015–Present **Research Assistant**, *UW-Madison*.

- Map Urban Forests of Wisconsin
  - Tested 3 machine learning algorithms to classify terabytes of imagery
  - Processed imagery in parallel at UW's Center for High Throughput Computing
  - Geospatial analysis in R and image segmentation in python.
- Carbon Budget of Urban Forest
  - Assessed impact of tree canopy on residential building energy use and carbon emissions of ~30,000 Madison homes.
- Canopy Foliar Trait Mapping with Imaging Spectroscopy.
  - Applied partial least squares regression models to predict foliar canopy traits (e.g. nitrogen content) from imaging spectroscopy data
  - Explored anthropogenic and environmental drivers of trait variation across Madison, WI.

2013–2015 **Teaching Assistant**, *UW-Madison*.

- Statistical Methods for Bioscience II, Spring 2015
  - Led 2 weekly discussion groups, graded homework and exams for this graduate-level course largely covering multiple linear and logistic regression
- Forest Ecology, Fall 2013 and Fall 2014
- Living With Wildlife, Spring 2014

2010–2012 **Chemistry and Biology Teacher**, *Confluence Prep Academy*, St. Louis.

- Educated over 120 students in six classes daily.
- As first year teacher, developed chemistry curriculum for new charter school integrating College Readiness Standards with Missouri Science Standards.

2010–2012 **Corps Member**, *Teach For America*, Chicago & St. Louis.

Education

2013–Present **Ph.D.**, *University of Wisconsin–Madison*, *3.929*.
Forestry, Department of Forest and Wildlife Ecology

2013–Present **M.S.**, *University of Wisconsin–Madison*.
Biometry, Department of Statistics

2006–2008 **B.A.**, *Washington University in St. Louis*, *3.83*.
2009-2010 Environmental Studies–Ecology/Biology, Summa Cum Laude

Relevant graduate coursework

- Tools for Reproducible Research
- Statistical Methods-Spatial Data
- Intro Mathematical Statistics I & II
- Teaching Statistics
- Advanced Data Analysis with R
- Multilevel Models
- Statistical Meth. for Bioscience I & II
- Statistical Consulting

Skills

Writing	*1 scientific paper in review; over $150,00 in proposals*
Presenting	*2 scientific posters, 1 academic presentation, 4 years of teaching*
Data Display	*Daily use of grammar of graphics in R's ggplot2*
Statistical Analysis	*GLMs, GAMs, multilevel models, shrinkage and dimension reduction, tree-based methods, dependent data in R and some Stan*
Computing	*R, python, webscraping, emacs org mode, unix command line, version control (git)*
Mentoring	*2 undergraduate research assistants, 4 years of teaching*

Tedward Erker
Madison, WI
(314) 324 6079
tedward.erker@gmail.com
stat.wisc.edu/ erker/

Education Analytics Recruitment Team
Education Analytics, Inc.
131 West Wilson Street, Suite 200
Madison, WI 53703

June 25, 2018

To Research Analyst Hiring Manager,

My first attempt at data-driven improvement in student achievement was in 2010. As a first year biology and chemistry teacher at a charter school in St. Louis, I wanted my students to grow at least 3 points on the ACT, an ambitious push towards college readiness. I administered tests quarterly, tracked students' performance, and created daily practice problems for target standards. Working with this data, I encountered the challenges inherent in measuring student learning. How reliable are the tests that I'm putting together from old ACTs? What to do about missing students? How much of my students' performance is even atributable to me, the teacher? And how can I use these results to make my teaching more effective?

I loved my high school students, but I wanted to teach college level courses. So in 2013 I moved to Madison to pursue a PhD in Forestry and a Masters in Biometry. My proclivity for data analysis followed me and was honed at the university. The highlights of my statistical training were a multilevel modeling course, being the teaching assistant for a graduate level statistics course for natural science majors, and statistical consulting. Relevant skills from my PhD work include working with large datasets (terabytes of imagery) in R, using machine learning algorithms (e.g. random forests), writing literate programs for reproducible research, and mastering the visual display of quantitative information for effective communication.

As I am nearing the completion of my PhD and considering the needs of my family, I am reconsidering the academic career path. I'm exploring the option of staying in Madison but want to be sure I can make full use of my skills and work for the common good. I believe, like Education Analytics, that the intelligent use of the correct data will help create a better education system, and by extension, a better world. I want to join Education Analytics and apply my skills to build this world, one district at a time.

My best,

Tedward Erker

Attached: resume