DANA PAIGE SEIDEL

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National Science Foundation Data Science Fellow & Berkeley Computational Biology PhD Candidate with 5 years experience in numerous applications of statistical modeling specifically for spatial and time series data.

RECENT PROJECT EXPERIENCE

Graduate Student Researcher: University of California, Berkeley **Fall 2014-Present**

- Built spatiotemporal models estimating the prevalence and spread of Chronic Wasting Disease across Alberta and Saskatchewan using a hierarchical Bayesian framework in WinBUGs and R
- Developed an automated program for updating spatial risk maps of Chronic Wasting Disease using Python Geopandas and R sf libraries using rare events logistic regression
- Built an agent based model in NOVA Modeller forecasting disease spread across a spatially and temporally dynamic landscape and the movement and infective state of a dynamic population of agents
- Developed a system in R for standardizing fix-rate across datasets of 10K+ GPS relocations
- Fit logistic regression models in R and ArcGIS incorporating mortality, environmental, and movement data to assess habitat selection decisions by zebra and interpolate space use across their range
- Parallelized burdensome computational tasks on UC Berkeley's high performance Linux cluster

Data Science Instructor: University of California, Berkeley **Fall 2017 - Present**

- Graduate student instructor for upper division undergraduate & graduate level coursework teaching the fundamentals of collaborative and reproducible data science including basic programing in R (using the tidyverse), relational databases, data management, version control, remote data and APIs, cloud computing, and R Markdown

Quantitative Analyst Intern: Google Maps, GeoData Analytics Team **Summer 2016**

- Explored impressions data for millions of features in the Google Maps database using Dremel, R
- Assessed average time to impressions maturity for novel business features using hazard models
- Fit mixed effect regression models and evaluated model capacity for predicting impressions of novel business features in 4 cities across US and India based upon spatial relations with mature features
- Produced visualizations & reports for analysts and engineers using R Markdown
- Adept at internal methods of code review, style, and version control

Statistics Instructor: University of California, Berkeley **Fall 2015**

- Graduate student instructor for upper division undergraduate/graduate statistics course including basic hypothesis testing, probability, experimental design, linear models, and programing in R

Southwest Alberta Montane Research Project: University of Alberta **Fall 2011-Summer 2014**

- Actively collaborated with team of 15+ researchers across 2 primary universities in a multi-collaborator program is describing wildlife movements and habitat use in southwest Alberta
- Managed and analyzed movement data from 182 radio-collared elk - totaling 856K cleaned GPS samples.
- Planned and led 3 person in-field observational study over 6 months including weekly spatio-temporal cluster analysis of movement data for foraging patch identification across 600 sq km
- Designed database and analysis flow for foraging data across 14 tracked elk (15K relocations), 209 patches, and their environmental covariates including 345 unique plant species
- Implemented multivariate analyses in R to test theoretical model for forager home-range development, ultimately publishing 2 peer-reviewed papers using mixed negative binomial regression and paired conditional logistic regression

EDUCATION

University of California, Berkeley **Fall 2014- Present**
PhD Candidate in Environmental Science, Policy, and Management *anticipated graduation date: Dec 2018*

University of Alberta **Fall 2011-Summer 2014**
Master of Science in Biological Sciences

Cornell University **Fall 2007-Spring 2011**
Bachelor of Science in Natural Resources

Data Science for the 21st Century: National Science Foundation Research Traineeship **Fall 2015-Spring 2017**
Software Carpentry Workshop: Berkeley Institute of Data Science **January 2016**

For List of Publications, Please see Google Scholar