

PETER SHAFFERY

+1 (978) 394-1443 \diamond petersh@ffery.org \diamond petershaffery.org

EDUCATION

University of Colorado Boulder

PhD, Applied Mathematics

Sept 2015 - Aug 2020

Graduating GPA: 3.7

University of Massachusetts, Lowell

BSc, Physics and Mathematics

Sept 2009-May 2014

Graduating GPA: 3.5

WORK EXPERIENCE

Graduate Research Assistant

Sept 2015-Pres.

University of Colorado Boulder, Boulder, CO

- Developed and analyzed a random matrix model to explain phenomena at the intersection of ecology and epidemiology
- Applied stochastic process models within a computational Bayesian framework to analyze insect movement in an agricultural context
- Developed variant of Hamiltonian Monte Carlo for computationally expensive Bayesian models
- Published and presented at Society of Industrial and Advanced Mathematics (both General and Regional conferences)
- Worked with CU Boulder Office of Data Analytics to forecast graduation rates and tuition revenue, using Bayesian survival models.

Graduate Teaching Assistant

Sept 2015-Pres.

University of Colorado Boulder, Boulder, CO

- Assisted for Calculus 1-3, Differential Equations, Psychological Statistics, and Bayesian Statistics and Computing.
- Additionally taught optional computer lab courses accompanying Calculus 3 and Differential Equations, introducing students to Mathematica and MATLAB

Intern

Jan 2019 - Jan 2020

National Renewable Energy Laboratory, 15013 Denver W Pkwy, Golden, CO 80401

- Used Bayesian time series methods to estimate solar power generation occurring “behind-the-meter”
- Proposals improved model error over other state-of-the-art methods by as much as 50%
- Drafted “research road-map” for behind-the-meter energy usage and generation projects
- Contributed code and methods to a project using high resolution, fisheye cameras (“Total Sky Imagers”) to estimate and forecast local solar resources.

TECHNICAL STRENGTHS

Software & Tools

L^AT_EX, Linux, MATLAB, Mathematica, Git, Jupyter

Languages

Python, R (and tidyverse), Stan, Go (novice), SQL (novice)

PUBLICATIONS

Bayesian Structural Time Series for Behind-the-Meter Photovoltaic Disaggregation

Shaffery, Yang, and Zhang

Innovative Smart Grid Technologies, Feb 2020

A Note on Species Richness and the Variance of Epidemic Severity

Shaffery, Elderd, and Dukic

Journal of Mathematical Biology, April 2020

Automated Construction of Clear-Sky Dictionary from All Sky Imager Data

Shaffery, Habte, Netto, Andreas, and Krishnan

Solar Energy, in rev.