Erika Fox

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EXPERIENCE

Mathematical Statistician June 2023 - present

US Department of Energy - Energy Information Administration (remote)

- Developed data processing pipeline in **Python**, integrating several independent data sources and employing longitudinal modeling techniques, improving reproducibility and model rigor over previous methods
- Led research to update parameters for a major linear programming model by leveraging industry data and research insights
- Performed sensitivity analysis of parameter updates to understand uncertainty and improve decision-making

Graduate Teaching Assistant

University of Washington (Seattle, WA)

September 2022 - present

Held office hours and attended weekly discussion sections to help facilitate student understanding of material

University of Nevada, Reno (Reno, NV)

Fall 2021

- Led recitation sections and held office hours to provide students with ample opportunity to engage with course material
- Created weekly quizzes to assess student learning and provided careful feedback to aid in students' learning process

Research Assistant March 2020 - December 2021

Montana State University (Bozeman, MT)

- Expanded the capabilities of an existing set of techniques used to compute long-term behavior of gene regulatory networks to include systems involving chemical transport across membranes
- Numerically analyzed sample system in Python to confirm that results agree with theoretical predictions

Student Researcher June 2020 - August 2020

The Ohio State University (remote)

- Developed data augmentation techniques for non-image datasets for use in machine learning applications
- Tested methods to analyze disease detection capabilities for patients with breast cancer and Parkinson's disease

SELECTED PROJECTS

King County Parcel Level Population Predictions

September 2023 - March 2024

King County Department of Public Health

- Collaborated with fellow students and employees of the King County Department of Public Health to develop rigorous statistical analysis plan for predicting small-area population estimates
- Integrated several data sources and produced predictive models in **R**, performed model selection, and presented findings to a broad audience with both technical and non-technical experience
- Provided county employees with a modeling framework which will be applied in future public health projects

Investigation of Trophoblast Inclusions and Adverse Birth Outcomes University of Washington

September 2023 - December 2023

- Proposed and conducted an investigation of the relationship between abnormal placental characteristics and adverse birth outcomes
- Utilized multinomial logistic regression in R in order to assess associations of interest and implemented novel causal inference methods to draw causal conclusions
- Produced technical written report and presented findings to faculty and peers

SKILLS

Proficient in R. Python, SAS, SQL, Excel

EDUCATION

University of Washington

Seattle, WA

MS in Biostatistics

Expected March 2024

Montana State University
BS in Applied Mathematics

Bozeman, MT Spring 2021

Minors in Statistics and Physics