Suzanne Thornton, PhD

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Professional Summary

- PhD Statistician with 5+ years of research leadership transitioning to **data science/biostatistics**
- Expertise in **Bayesian modeling** (hierarchical, meta-analysis), **machine learning** (Python/R), and **ethical data practices**
- Proven track record in **translating statistical theory** to applied solutions (NIST, clinical neurology)
- Earned **Google Data Analytics Certificate** on Coursera in May 2025

Skills and Expertise

Languages: Python (NumPy, Pandas), R (tidyverse, glmm, mclust), SQL, Stan
Tools: Git, LaTeX, RMarkdown, Tableau, VS Code
Methods: Bayesian Inference, MCMC, GLM, Bootstrapping, AUC Optimization, Measurement Error Models
Domains: Metrology, Clinical Predictive Analytics, Statistics and Data Science Education

Professional Experience

PREP Research Scientist 2024–Present
National Institute of Standards and Technology (NIST) — George Washington University

- Developed **Bayesian measurement error models** improving accuracy for national standards applications
- Led theoretical framework for **generative AI detection** in scientific text (Python implementation)
- Co-authored 2 successful grant proposals ($144K awarded) for statistical metrology research

Visiting Assistant/Assistant Professor of Statistics 2019–2023
Swarthmore College

- Taught mathematical statistics and implemented **ethics modules** in data science curriculum
- Mentored undergraduate students in **interdisciplinary research** projects

Part-time Statistical Consultant 2016–2019
Rutgers Office of Statistical Consulting

- Provide clients with **experimental design**, data analysis, and interpretation of statistical results
- Offer methodological guidance on statistical techniques such as **regression, ANOVA, and survey methods**
- Provide software support and help users implement analyses in **R, SAS, and SPSS**

Education

PhD in Statistics 2019
Rutgers University
Thesis: *Advanced Computing Methods for Statistical Inference*

BS in Mathematics & Statistics 2014
University of Florida, Summa Cum Laude

Select Publications

- **Thornton S.**, et al. (2025). Semi-parametric Bayesian Measurement Error Model for Nanoparticles. *(in proceedings)*
- **Thornton S.**, et al. (2023). Approximate Confidence Distribution Computing. *NE J Stats in Data Science*
- **Thornton S.**, Xie M. (2023). Parameter Duality in Inference. *Philosophy of Science*
- Choi H., **Thornton S.**, et al. (2020). Predictive Model for Drug-Resistant Epilepsy. *Neurology*
- Michael H., **Thornton S.**, et al. (2019). Exact inference for meta-analyses. *Biometrics*