Naomi R. Singer

naomi.singer93@gmail.com | (404) 747-2021 | https://ngierty.github.io/ | Raleigh, NC

PROFESSIONAL SUMMARY

Enthusiastic statistical researcher with 5+ years of data science and statistical consulting experience tailoring existing and developing novel statistical solutions to complex data problems faced by researchers and experts across many fields. Known to be a top-performing statistical consultant able to translate complex methods and results into terminology accessible to diverse audiences. Successfully and efficiently executed projects from ideation to delivery of detailed project reports/manuscripts and working ML/AI models in R or Python.

EDUCATION

North Carolina State University | Raleigh, NC   *Expected July 2025*
Doctor of Philosophy in Statistics

University of Michigan | Ann Arbor, MI   *May 2019*
Master of Science in Statistics

Emory University | Atlanta, GA   *May 2015*
Bachelor of Science in Mathematics
Bachelor of Arts in Economics

SKILL HIGHLIGHTS

- **Functional skills:** Statistics, data analysis, model building and evaluation (e.g., GLM regression, mixed-effects models, ML/AI algorithms), project execution, report writing, cross-functional collaboration and consulting
- **Technical skills:** R, SAS, Python, STATA, Excel

PROFESSIONAL EXPERIENCE

Data Science Research Consultant   *August 2023 - Present*
North Carolina State University Libraries | Raleigh, NC

- Support literature review, study design, data cleaning and visualization, ML/AI model building and evaluation, statistical analysis, and results interpretation for 60+ university faculty and graduate students utilizing various programming tools
- Manage project execution from ideation through delivery including defining project scope, defining and assigning tasks, writing code, and writing project reports detailing data analysis, statistical methods, and results
- Designed and led a statistics bootcamp for other consultants
- Facilitate data science workshops to improve data literacy and disseminate analytic skills
- Major analytical work:
  - Developing an object detection and tracking algorithm with noisy background masking to detect flies on a rock in the middle of a stream
  - Implementing several mixed-effects models to measure changes in student social annotation behaviour
  - Implemented a split-plot design with an additional blocking effect at highest level and spatially correlated errors at the lowest level to measure forest regrowth after planned clearing
  - Extended the Theil-Sen estimator to instances where the intercept must be zero
  - Implemented negative binomial and beta regression models with random effects to measure the effects of temperature and parental sex ratio on wasp breeding habits
  - Implemented a logistic regression model to determine impacts of latitude and presence of historical and contemporary animals on the presence of serpent-creator local cultural references

Graduate Researcher   *May 2020 - Present*
North Carolina State University | Raleigh, NC

- Lead projects developing novel statistical methods for prediction under complex noise models and uncertainty quantification for a model's structure
- Wrote statistical theory and methods, conducted simulation studies, and performed data cleaning and analysis for 5 published papers and 6 presentations
- Mentored 5 undergraduate students on conducting research, building and evaluating machine learning models, performing statistical analyses, and writing and publishing a manuscript
- Conducted statistical analyses and wrote reports for 5 non-profits in the community

Graduate Researcher   *May 2018 – May 2019*
University of Michigan | Ann Arbor, MI

- Developed a random forest and neural network in Python to predict ion events in Earth's atmosphere using a dataset with over 300,000 observations
- Wrote statistical theory and methods, conducted simulation studies, and performed data cleaning and analysis for a published paper and a poster presentation

Research Analyst   *July 2015 – August 2017*
The Brattle Group | Washington, D.C.

- Collaborated with team members to build machine learning models and conduct statistical analyses for testimony in regulatory proceedings and for client business use
- Managed internal audits, production of deliverables, and task assignments
- Prepared demonstratives and drafted text for expert testimony and client reports
- Supported expert witnesses during depositions, hearings, and client meetings

AWARDS

- American Statistical Association Astrostatistics Interest Group Student Paper Finalist, 2025
- Francis Giesbrecht Award for Statistical Consulting, 2023-2024
- Paige Plagge Award for Citizenship, 2022-2023
- Outstanding Teaching Award, 2017-2018