Denise Bradford

Location: Philadelphia, PA

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SKILLS AND COMPETENCIES

- **Programming**: SQL (Postgres and MySQL), Python (numpy and pandas), R, SAS, SPSS

- **Tools and Software**: Apache Spark, Posit Studio/Shiny, Looker, Git/Github, AWS, Microsoft Azure, Databricks, JIRA

- **Hard Skills**: Data Visualization, Big Data, Data Analysis, Reporting, Debugging, Modeling

INDUSTRY EXPERIENCE

- **Detroit Pistons, Basketball Operations** — Detroit, MI
  Senior Data Scientist — *Dec 2022 - Aug 2024*
  - **Basketball Operations**: Developed data pipelines in collaboration with a data engineer to enhance data quality and accessibility. Led the design and implementation of ETL processes, performing data cleaning and preparation. Lead the adoption of agile methodologies, transforming the team's workflow, reducing project delivery times, and boosting productivity. Revamped the strategy for third-party data providers to align with department needs, yielding deeper insights. Played a key role in deploying and supporting a third-party software application, ensuring smooth integration. Created intuitive dashboards and reports that delivered critical metrics to the Front Office, Performance, and G-League coaching staff.

- **Philadelphia 76ers, Basketball Operations** — Camden, NJ
  Data Scientist — *Jun 2022 - Dec 2022*
  - **Research and Development**: Developed and enhanced game strategy by applying advanced data management and statistical methods. Collaborated closely with the project manager and researchers to author comprehensive documentation on statistical modeling methods.

- **Mclendon Minority Leadership Institute Fellowship** — Lincoln, NE
  Sports Analytics Assistant — *Jun 2021 - May 2022*
  - **Nebraska Athletic Performance Lab**: Developed applications for Men's and Women's Basketball and Football in R while reconfiguring data processing workflows using third-party APIs. Partnered with Sports Scientists to conduct data analysis, driving insights into athletic performance. Supervised 2-3 undergraduate students, overseeing their data management tasks to ensure accuracy and efficiency.

- **Hudl** — Lincoln, NE
  Data Analyst Intern — *Jun 2019 - Jun 2021*
  - **Decision Science Team**: Collaborated with colleagues to execute data modeling techniques, collecting, analyzing, and interpreting data for business partners. Developed and implemented new quantitative models for a product launch, ensuring robust analytics. Identified and resolved data issues, actively contributing to team meetings with colleagues and managers. Managed high-volume data requests from business partners, optimizing workflows to support the company's data-driven decision-making. Recognized with the intern award for strong collaboration and communication skills.

- **Centers for Disease Control and Prevention** — Atlanta, GA
  Health Statistician — *Feb 2015 - Aug 2018*
  - **Division for Adolescent and School Health (DASH)**: Managed and mentored ORISE fellows daily, overseeing their tasks and development. Developed, tested, and implemented programs using SAS, SPSS, R, and Epi Info to clean, manage, merge, and analyze large, complex datasets. Conducted power calculations and estimated sample sizes for Global School Health Surveys. Worked with multiple large datasets, efficiently formatting, merging, and subsetting them to achieve analysis objectives. Made independent decisions on optimal analysis strategies and ensured accurate reporting of results.
  - **Division for Population Health (DPH)**: Served as a program technical advisor, developing innovative methods and selecting techniques to enhance sample surveys and experimental designs. Designed, developed, and applied advanced mathematical techniques to improve statistical research methodologies and rigorously evaluated outcomes. Provided expert guidance on statistical projects and studies that represented significant departures from prior research, leading to novel and impactful results.

RESEARCH EXPERIENCE

- **University of Nebraska - Lincoln** — Lincoln, NE
  Research Assistant — *Aug 2018 - Dec 2022*
  - **Smart Decision-Making in Small and Shrinking Rural Areas**: NSF Grant between Iowa State University and University of Nebraska - Lincoln: Executed web scraping techniques on open-source data, updating and storing it on a local server for geospatial statistical analysis. Conducted analysis on proxy variables to assess and improve the quality of life for residents.

- **Nebraska Academy for Methodology, Analytics and Psychometrics (MAP)**: Department of Children, Youth, Families, and Schools: Managed and conducted statistical analysis on research data for projects focused on K-12 development in Nebraska, ensuring accurate and actionable insights to support the research objectives.
- **Research Assistant for Dr. Kathy Hanford**: Department of Statistics: Conducted generalized linear mixed-modeling analyses on research data to assess the impact of diet on chicken eggs, aiming to reduce the need for pesticides.

Teaching Experience

University of Nebraska - Lincoln — Lincoln, NE
R Workshop Instructor — *Jan 2022 - May 2022*
- **Section Instructor**: Department of Statistics: Led a full-day course on basic web scraping techniques and tidy data methods in R at the University of Nebraska - Lincoln, providing hands-on instruction to students during the inter-semester period.

University of Nebraska - Lincoln — Lincoln, NE
Teaching Assistant — *Aug 2019 - May 2020*
- **Lab Instructor for Graduate Course**: Department of Statistics: Taught basic statistical methods and statistical coding in two programming languages to 20-30 graduate students in a Design of Experiments course, delivering comprehensive instruction to enhance their analytical skills.
- **Assistant Instructor for Undergraduate Course**: Department of Statistics: Assisted in an undergraduate Calculus-based Introduction to Statistics course by conducting office hours, grading quizzes, and teaching a session on coding in R, providing support and guidance to enhance student learning and comprehension.

Education

University of Nebraska-Lincoln — Lincoln, Nebraska
Doctor of Philosophy in Statistics — *Expected 2025*

University of Nebraska-Lincoln — Lincoln, Nebraska
Master of Science in Statistics

Purdue University — West Lafayette, Indiana
Master of Science in Applied Statistics

Purdue University — West Lafayette, Indiana
Bachelor of Science in Applied Statistics

Recent Publications and Papers

- **Exploring Rural Shrink Smart Through Guided Discovery Dashboards - 2022**: Journal of Data Science— Denise Bradford and Susan VanderPlas
- **Geospatial assessment of phenotype predictive analytics using machine learning techniques - 2019**: Geophysical Research Abstracts — Francisco Munoz-Arriola, Parisa Sarzaeim, Alessandro Amaranto, Diego Jarquin, Denise Bradford
- **Factors Associated with Pregnancy Among Incarcerated African American Adolescent Girls - 2016**: Journal of Urban Health— Simone C. Gray, Ph.D., Kristin Holmes, Denise R. Bradford
- **Environmental Regulation of Heterosis in the Allopolyploid Arabidopsis Suecica - 2016** : Plant Physiology Today— Erik M. Solhaug, Jacie Ihinger, Maria Jost, Veronica Gamboa, Blaine Marchant, Denise R. Bradford, R.W. Doerge, Anand Tyagi, Amy Replogle and Andreas Madlung
- **A Re-raking Tool for Behavioral Risk Factor Surveillance System (BRFSS) County and County Group-Level Estimation - 2015**: Preventing Chronic Disease in the Tools and Techniques— Burton Levine, Jamie Newnan, Diane Catellier, Todd Rogers, Caitlin Hennessy, Paul Siegel and Denise R. Bradford

Recent Presentations

- **Annual Joint Statistical Meetings – Washington D.C. — 2022**: "An Examination into Effective Interactive Dashboard Design Usability and Adaptability in Collegiate Sports - A journey from Paper Printouts to Online Dashboard Usage" Presenters: Denise Bradford, Susan VanderPlas, and Brad Smith

- **Statistics and Data Science Symposium – Pittsburgh, PA — 2022**: "Exploring Rural Shrink Smart Through Guided Discovery Dashboards"   Presenters: Denise Bradford and Susan VanderPlas

- **Annual Joint Statistical Meetings – Virtual Conference — 2021**: "What Can Public Data Tell Us About the Quality of Life in Rural Small Towns?"   Presenters: Denise Bradford and Susan VanderPlas

Professional Memberships

- **Communications Chair for Statistics in Sports Section**: American Statistical Association

- **Finance Chair**: Revitalize Our Communities

- **Advisory Group Member**: Atlanta Sports Analytics Conference