

DANISHA ‘DANI’ BAKER, PHD

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EDUCATION

- PhD** Florida State University, Statistics May 2017
Dissertation: “A Bayesian Wavelet Based Analysis of Longitudinally Observed Skewed Heteroscedastic Response”
Committee: Eric Chicken (chair), Debajyoti Sinha, Debdeep Pati
- BS** Florida State University August 2012
Graduated Summa Cum Laude
Double Major in Statistic and Psychology

HONORS AND AWARDS

- McKnight Doctoral Fellow** 2015
- Program for Instructional Excellence** 2016
Teaching Associate

RESEARCH EXPERIENCE

- Dissertation**, Florida State University, Tallahassee, FL 2017
Advisor: Dr. Eric Chicken
- Conceived and optimized density estimation techniques using wavelets and Bayesian methods.
- FSU College of Medicine**, Tallahassee, FL 2015 to 2017
Senior Researcher
- Evaluated the effectiveness of Medication Therapy Management (MTM) in Medicaid patients in reducing the likelihood of inpatient and emergency department events as well as reimbursements and prescription drug expenditures. A multi-year study.
- Gaerttner LINAC Center**, Troy, NY 2018 to 2019
Visiting Researcher
- Improved ‘SAMMY’ a series of codes for Multilevel R-Matrix Fits to Neutron Data Using Bayes’ Equations. Designed a means to calculate the covariance on the experimental data and input it into SAMMY while avoiding Peelle’s Pertinent Puzzle and risking the integrity of the of the LINAC.

Naval Nuclear Laboratory, Niskayuna, NY 2018 to 2019
Senior Scientist

- Led exploratory work of a technique used to analyze both longitudinal and failure data of a passive component in a single model.
- Critiqued and improved existing method based on Bayesian optimization algorithm to measure feasibility of experimentation including equipment operation, power, and control system.

Becton Dickinson (MedMined), Franklin Lakes, NJ 2019 to 2020
Senior Data Scientist

- Analyzed antimicrobial susceptibilities of non-duplicate Enterobacteriaceae and Acinetobacter spp. isolates reported in 2017 from 375 US hospitals in the BD Insights Research Database to determine non-susceptibility rates.
- Studied the causative events that are related to the insertion and maintenance of infusion and vascular access devices.

CACI International (Center for Disease Control), Niskayuna, NY 2020 to 2022
Senior Mathematical Statistician

- Evaluated the appropriateness of antimicrobial use for hospitalized patients treated for community-acquired pneumonia or urinary tract infection present at admission or for patients who had received fluoroquinolone or intravenous vancomycin treatment.
- Analyzed hospital-onset (HO) vancomycin-resistant Enterococcus (VRE) bacteremia data to identify hospital-level factors that were significant predictors of HO-VRE using the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN) multidrug-resistant organism. A risk-adjusted model that can be used to calculate the number of predicted HO-VRE bacteremia events in a facility was developed, thus enabling the calculation of VRE standardized infection ratios (SIRs).

Microsoft, Atlanta, GA 2021 - Present
Data & Applied Scientist

- Worked directly with stakeholders to identify and understand what drives customer outcomes such as acquisition and churn.
- Developed predictive models to identify MS customers that had the highest propensity to purchase a specific security product, generating \$26 million in additional revenue.
- Redesigned a web-based dashboard for tracking MS security suite, increasing visibility into the business.

TEACHING EXPERIENCE

Florida State University, Tallahassee, FL Aug 2013 to May 2017
Instructor, Department of Statistics

- Taught Statistics for Biology and Statistics for Business, an undergraduate course averaging 120 students per semester, covering the following topics: probability, statistical inference, hypothesis testing, regression
- Developed quizzes, exams, and homework
- Coordinated grading and labs with a team of 2 teaching assistants

PRESENTATIONS AND INVITED LECTURES

Paper Presentation, “A wavelet based analysis of skewed response longitudinal and heteroscedastic data,” ENAR, 2016.

Paper Presentation, “Evaluation of clinical and financial outcomes in medication therapy management programs in a publicly insure adult population,” APHA, 2017.

Lecture, “Bayesian Methods in Engineering Design Problems”, Rensselaer Polytechnic Institute, 2019.

Workshop, “Antimicrobial Use and Resistance”, NHSN Annual Training, 2021.

PROFESSIONAL AFFILIATIONS

American Statistical Association, 2015-Present

ENAR, 2021-Present

Fostering Diversity in Biostatistics Chair

COMPUTER SKILLS

Programming: Python, R, SAS, PowerBI, Microsoft Azure