

NANA BOATENG

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EDUCATION

The University of Memphis, Memphis, TN

PhD, Mathematics (Statistics Concentration), December 2016

PhD Dissertation: Exact Conditional Parametric and Nonparametric Methods for Sparse, Small Samples and Clustered Binary Data

The University of Memphis, Memphis, TN

Master of Arts in Economics, December 2016

The University of Memphis, Memphis, TN

Master of Science in Mathematics (Statistics Concentration), May 2014

Middle Tennessee State University, Murfreesboro, TN

Master of Science in Mathematics, August 2012

Master Thesis Topic: Mesh-free Methods Solution of The Black-Scholes Partial Differential Equation

Institute of Commercial Managers, United Kingdom

Graduate Diploma in Business Studies, June 2010

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Bachelor of Science in Mathematics, June 2007

Undergraduate Thesis Forecasting of Future Cocoa Purchase by The Ghana Cocoa Marketing Board Using Time Series

PROFESSIONAL EXPERIENCE

Fiat Chrysler Automobiles, Auburn Hills, MI

Data Scientist/ Test Schedule Development Engineer, June 2017-to present

- Sentiment Analysis of FCA employee reviews: Scraped and analyzed over ten reviews from Glassdoor to classify employee and ex-employees sentiments about FCA work environment between 2008 and 2018.
- Lead manpower requirements project to predict with better accuracy the number of vehicles that would be sent to Chrysler Proving Grounds for vehicle testing. This allowed the manpower team to hire the right number of drivers thereby reducing cost otherwise incurred from hiring more drivers than will be needed.
- Lead on multiple analytical projects using Customer Usage Data(CUDA) and warranty data to drive insights into customer mileage, identify warranty concerns and improve overall durability of FCA vehicles.
- Lead Trailer Tow project using data from Control Tec database to analyze 95th Percentile trailer towing FCA SUV vehicles.
- Member , Long Term Data Strategy development team for FCA.
- Create models that use vehicle warranty structured and unstructured data to improve durability and test schedule development.

Baptist Cancer Center, Memphis, TN

Data Analyst/Manager, January 2016-May 2017

- Responsible for data management that includes data collection and database management for the Thoracic Oncology Multidisciplinary Clinic. Duties include collecting data at conferences and during

clinics and reporting to Medical Director, Medical Steering Committee, Administration and various grant-funding organizations as directed.

- Perform a prospective matched cohort comparative effectiveness study of patients receiving serial versus multidisciplinary care, with key patient-centered endpoints (survival, satisfaction with the care experience, timeliness and appropriateness of care, quality of staging).
- Perform statistical analysis to determine the quality of care and survival between multidisciplinary program and serial care program using models such as conditional fixed effects logistic regression for binary categorical outcomes; fixed effects generalized linear models and fixed effects proportional hazard model for survival analysis.

Baptist College of Health Sciences, Memphis, TN

Adjunct Instructor, August 2015-August 2016

- Teach College Algebra and Introduction to Statistics.

The University of Memphis, Memphis, TN

Member of Professional Development Committee, January 2014-August 2016

- Recruited resource personnel for graduate student professional development seminars.
- Organized professional development seminars.

Member of Graduate Assistants Healthcare Committee, January 2014-August 2016

- Partnered with Church Health Center to bring health insurance coverage to Graduate Assistants.

Graduate Teaching Assistant, August 2012-May 2016

- Taught Introduction to Statistics, Foundations of Math, and Elementary Calculus.

St. Jude Children's Research Hospital, Memphis, TN

Graduate Research Assistant, July 2014-June 2015

- Worked on numerous research projects, including: (1) gastronomy complications in pediatric cancer patients; (2) the effect of dynamic contrast enhanced MRI (DEMRI) on tumor angiogenic activity and in predicting tumor response of OS2008 patients; (3) evaluation of alternative in vivo screening methodology; (4) analysis of single mouse tumor response results from PPTP; and (5) the significance of splenomegaly at diagnosis in pediatric Hodgkin lymphoma.

Middle Tennessee State University, Murfreesboro, TN

Graduate Teaching Assistant, August 2010- August 2012

- Taught College Algebra.
- Tutored Calculus I, II & III, Partial and Ordinary Differential Equations, Financial Mathematics and Trigonometry.

Presbyterian Girls Senior High School, Kumasi, Ghana

Mathematics Instructor, August 2008- August 2010

- Taught various sections of high school level Mathematics and Physics.

Internal Revenue Service, Odum District Office, Kumasi, Ghana

National Service Personnel, November 2007- August 2008

- Prepared tax returns and tax collection activities.

ONLINE PROFILE

- <http://rpubs.com/mr148>
- <https://github.com/NanaAkwasiAbayieBoateng>
- <https://www.linkedin.com/in/nana-boateng-26b9a226/>

RESEARCH EXPERIENCE

- Bayesian Inference (A/B Testing)
- Multi level/Hierarchical Modeling
- Predictive Analytics/Time Series Modeling
- Survival Analysis
- Supervised and Unsupervised learning, Clustering Algorithms, Dimensionality Reduction
- Machine learning (deep learning, recommender systems, natural language processing, network analysis)
- Non-parametric Regression and Methods
- Diagnostic Imaging and Sensitivity Analysis
- Computational Modeling and Biostatistics in Gene Expression Data
- Sentiment Analysis (structured and unstructured data sets)
- Sample Size Estimation and Power Analysis
- Analysis of Count Data
- H2O(in R and Python)
- Spark/SparkR /Sparklyr /R in Hadoop/PySpark / MapReduce
- Optimization techniques (linear / nonlinear programming, dynamic / stochastic programming)
- Quantitative finance (Monte Carlo simulation, risk quantification, portfolio optimization, economic scenario generation)
- Parallel and / GPU Cloud computing
- Spatial Data Visualization

CONFERENCE

- International Conference on Design of Experiments, University of Memphis, May 10-13,2016

COMPUTER SKILLS

- Operating Systems: Windows, UNIX, Linux
- Programming Languages: R, Matlab, Python, C++, Visual Basic, Octave
- Relational database : SQL, Tableau
- Typesetting Programs: Latex, Office Programs: Microsoft Office Suite and Open Office
- Statistical Packages: Minitab, Stata, SPSS, SAS (Certified Base Programmer), Stan

PROFESSIONAL MEMBERSHIPS

- American Statistical Association
- American Mathematical Society
- American Economic Association
- Institute of Commercial Managers (UK)

PUBLICATIONS

- Fernandez Israel, John A. Sandoval, Reagan M. Jones, **Nana Boateng**, Jianrong Wu, Bhaskar N. Rao, Andrew M. Davidoff, Stephen A. Stochat. *Gastrostomy Complications in Pediatric Cancer Patients: A Retrospective Single-Institution Review*, Pediatric Blood & Cancer 62(7):S184-S185, November 2015.
- **Nana Boateng**, *Numerical Partial Differential Solution of The Black-Scholes Equation*, Lambert Academic Publishing (2013).
- Brendan Murphy, Han Yin, John Maris, E Kolb, Richard Gorlick, C. Patrick Reynolds, Min Kang, Stephen Keir, Raushan Kurmasheva, Igor Dvorchik, Jianrong Wu, Catherine Billups, **Nana Boateng**, Malcolm Smith, and Peter Houghton. *Evaluation of Alternative In Vivo Drug Screening Methodology: single mouse analysis: A Retrospective Single-Institution Review*, Cancer Research , October 2016.

REFERENCES

- George E. Olusegun, PhD
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