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**Tawanda Benesi**

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**EDUCATION**

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**Ph.D. Statistics**

*University of Georgia – Athens, GA*

*May 2020*

**MS Statistics**

*University of Georgia – Athens, GA*

*May 2018*

**MS Statistics**

*University of Zimbabwe – Harare, ZW*

*December 2014*

**BS (hons.) Statistics**

*University of Zimbabwe – Harare, ZW*

*December 2010*

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**RELEVANT EXPERIENCE**

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**Graduate Teaching Assistant**

*University of Georgia, Department of Statistics– Athens, GA*

*February 2016 -*

*Present*

- Lead class activities for introductory statistics courses and help an average of 20 students per class.
- Guide students with assignments and programming tasks in intermediate statistics classes.
- Proctor tests and examinations to ensure academic honesty.

**Consulting Assistant**

*University of Georgia, Department of Statistics– Athens, GA*

*January 2017 -*

*December 2017*

- Served as a lead or associate consultant in at least 3 projects/semester.
- Analyzed projects of diverse nature completion rate of at least 98%.
- Organized, scheduled and led client meetings.
- Wrote reports and presented findings to the clients.

**Associate Lecturer**

*University of Zimbabwe, Department of Statistics– Harare, ZW*

*January 2012 to July*

*2014*

- Instructed undergraduate classes in computing and applied statistics courses.
- Guided students with assignments and programming tasks.
- Managed a class and grades for at least 15 students.
- Taught some undergraduate mathematical statistics courses.

 Recoverable Signature

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Tawanda Benesi 03/18/2020

Signed by: Tawanda Benesi

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## BACKGROUND

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### Statistical Coursework

University of Georgia, Department of Statistics—Athens, GA

August 2014 - Present

- Multivariate statistics: classification, clustering and model validation techniques.
- Topics in Statistics: Big data techniques, regularized regression, signal processing and Recommender systems.
- Applied linear models: general and generalized linear models, for example, linear and logistic regression.
- Advanced Applied Computing: Advanced programming in R, Julia/MATLAB, Rmarkdown.
- Programming in R and SAS.

### Class Projects

University of Georgia, Department of Statistics—Athens, GA

August 2014 - Present

- Analyzed gene expression using regularized regression to identify  $p = 528$  motifs with the most influence on the genes with a sample size of  $n = 5969$  genes. Elastic net had the least prediction error compared to lasso and ridge regressions.
- Collaborated in a Big Data class project to estimate the unmixing matrix in signal processing data using blind source processing. Applied *dimensional reduction* and *algorithmic leveraging* methods.
- Collaborated a Linear Models class project to predict incomes in Brazil's Minas Gerais state 2010 census data. The data was large with over 1.5 million observations and we used *randomized algorithmic leveraging* tools such as uniform subsampling.

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## BACKGROUND *cont.*

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### Data Science Certificate

[www.datacamp.com](http://www.datacamp.com), DataCamp

August 2018 - Present

- Study advanced data science tools and techniques used by data scientists in industry.
- Programming skills in R and Python on data science projects.
- Work on data science project to prepare for real-life data science projects.
- Learn innovative data analysis tools used for data analysis.

### Data Camp Projects

DataCamp Projects

May 2018 - Present

- **Predicting credit card approvals.** Built supervised learning algorithms to predict whether a credit card application will be accepted or rejected.
- **Predict bee species from images.** Implemented machine learning algorithms to predict whether a given image is a honeybee or a bumble bee.
- **Exploring the Bitcoin Cryptocurrency Market.** Analyzed the volatility of various cryptocurrencies using the pandas and matplotlib libraries in Python.
- **The hottest topics in machine learning.** Analyzed and pre-processed text data from machine learning research papers to identify trends and latest topics in machine learning using bag of words

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## SUMMARY OF SKILLS

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- Programming in R, Python, SQL, and Git version control
- Data wrangling and visualization
- Data Science tools and predictive models
- Big data and statistical learning (Apache Spark)
- Problem solving and decision making
- Interpreting research findings
- Presentation and report writing
- Collaborator and team player
- Unsupervised and supervised learning
- Deep learning and network analysis

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## RESEARCH INTERESTS

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- Data science applications in health, disease mapping and personal medicine.
- Data science applications in agriculture, engineering, manufacturing and climate.
- Business data analytics and risk modeling.
- Data science applications in education and social behavior.
- Longitudinal data analysis and Spatial-temporal data analysis

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## RESEARCH AND PAPERS

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- *Dissertation*: Extensions of marginal zero-inflated regression models for clustered data. *Incomplete*.
- Benesi T., and Hall D. B. (2019). Marginal zero-inflated regression models for clustered data with multinomial mixing. *Working paper*.
- Benesi T., and Hall D. B. (2019). A regression-solution algorithm for marginal zero-inflated regression models for clustered data. *Working paper*.
- Benesi T., and Hall D.B. (2019). margZIfit: An R package for fitting marginal zero-inflated regression models for clustered data. *Working paper*.

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## MEMBERSHIPS

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- American Statistical Association (ASA). *Student membership*.
- Royal Statistical Society. *Student membership*.
- Institute of Mathematical Statistics (IMS). *Student membership*.
- Society of Industrial and Applied Mathematics (SIAM). *Student membership*.

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## AWARDS, CERTIFICATIONS & INVOLVEMENT

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- Awarded Outstanding Teaching Assistant Award, University of Georgia, Statistics. *March 2019*
- Fellowship, Foreign Fulbright Scholar. *August 2014*
- Awarded a Data Science Certificate, DataCamp. *September 2018*
- Tutor for student athletes and undergraduates in introductory mathematics and statistics courses. *2016 - Present*