

Education

University of Washington, Seattle <i>PhD. Biostatistics</i>	<i>September 2021 – Present</i>
University of Central Florida, Orlando <i>MSc. Statistical Computing</i>	<i>August 2019 – May 2021</i>
University of Ghana, Legon-Accra <i>BSc. Mathematics with Statistics</i>	<i>September 2014 – May 2018</i>
Tufts University, Boston <i>BSc. Mathematics</i>	<i>2016/2017</i> <i>Exchange Student</i>

Research Experience

University of Washington, Seattle <i>Research Assistant, Advisor: Dr. Lyndia Brumback</i>	<i>September 2021 – present</i>
<ul style="list-style-type: none">• We are working on a longitudinal study to evaluate the trajectory and determinants of symptoms and quality of life among patients with SABI (Severe Acute Brain Injury) and the caregiver strain and psychological distress among family members of patients with SABI.	

College of Medicine, University of Central Florida, Orlando <i>Research Assistant, Biostatistics Lab, Advisor: Dr. Julia Soulakova</i>	<i>May 2020 – May 2021</i>
<ul style="list-style-type: none">• We studied the effect of mild Hypobaric Hypoxia exposure on Splenic proliferating, Erythroid, and Myeloid cells after muscle Trauma-Hemorrhage.• Conducted statistical analysis on animal studies, communicated analytical results to PI and other collaborators, and proposed statistical methods. Used SAS[®] software to write programs for analyses and data management.• Researched on non-parametric methods of detecting outliers in the case of small sample sizes.	

Teaching Experience

• Teaching Assistant, BIOST 310 Biostatistics for the Health Sciences	<i>Fall 2021</i>
• Teaching Assistant, Statistical Methods II	<i>Fall & Spring 2020/2021</i>
• Teaching Assistant, Statistical Methods I	<i>Fall 2019</i>
• Teaching Assistant, Module Theory	<i>2018</i>
• Teaching Assistant, Calculus I	<i>2018</i>

Projects

Deep One-Class Classification | *Anomaly Detection (AD)*

- Replicated methods in the paper <http://proceedings.mlr.press/v80/ruff18a/ruff18a.pdf> that addresses deep learning approach for anomaly detection.
- These methods learn useful feature representations of the data together with the one-class classification objective.
- Implemented the methods in R software to solve formulated unconstrained optimization problems with gradient descent.

- Proposed and implemented Least-Square variants of the Deep one-class classification methods with an ℓ_2 regularization.

Negative Binomial Spline Model | *Bayesian Approach*

- Implemented a penalized bayesian linear spline model for count outcomes using mixed-effect model representation.
- Utilized Polya-gamma transformation to achieve conjugacy for easy sampling through Gibbs Sampler.
- Performed simulation studies and applied method to model count of COVID-19 cases.

Publications

1. Liyuan Zhang, Shailey Patel, **Albert Osom**, Julia Soulakova, Charles C. Caldwell, Barbara St. Pierre Schneider. The Effect of Mild Hypobaric Hypoxia on Splenic Proliferating, Erythroid, and Myeloid Cells After Muscle Trauma-Hemorrhage. *{Submitted}*

Presentations

1. 2020 Nursing Summit: Modified Interquartile Range method for Detecting Extreme Outliers in Small Samples. August, 28th. *{Invited Talk}*.
2. 2021 UCF Student Scholar Symposium: Four Methods for Detecting Outliers: Applications in Animal Study. Osom, A. Zhang, L., St. Pierre Schneider and Soulakova, J.N., Orlando, FL, March 30, 2021.

Technical Skills

R, Python, SAS[®], SPSS, SQL, L^AT_EX

Academic Awards

- School of Public Health Award, University of Washington. *2021*
- Graduate Dean's Fellowship, University of Central Florida. *2021*
- Graduated with a First-Class Honors (Highest Honors) and top of the class. *2018*
- Best Performing second year undergraduate Mathematics student. *2016*

Professional Membership

- American Statistical Association