

Education

Vanderbilt University  
Pursuing Ph.D. in Biostatistics. GPA: 3.95.

Expected Graduation  
May 2021

University of Florida  
Bachelor of Science in Statistics.  
Summa Cum Laude. Honors Program. GPA: 3.75.

May 2016

Work  
Experience

**Chevron Point of View Analyst - Chevron**

May 2016 – Jul 2016

Contributed to the formulation and circulation of the Chevron Point of View: long-term forecasts on supply and demand of crude/ products. Reimagined the Chevron Point of View (CPOV) Dashboard from a static Excel file to an interactive tool in Spotfire allowing for visualization manipulation and comparative analysis between different geographic regions across time, with added capabilities to chisel down by product. Compiled and synthesized information about the International Maritime Organization to contribute to the CPOV on organizational functioning, the voting process, and forecasts on upcoming regulation outcomes.

**Teaching Assistant for Statistics I - University of Florida**

Jan 2014 – Apr 2016

Lead weekly “lab” classes where students learn how to apply the statistical concepts they learn in lecture through hands-on activities and more in-depth exercises. Responsible for teaching duties such as grading papers, tutoring, and proctoring exams.

**Business Development Intern for Crude Supply & Trade - Chevron**

May 2015 – Jul 2015

Designed methodology and executed data collection in support of Lookback Projects for contracts to assess predicted versus actual performance on each asset. Provided support on specific crude sourcing and trade-driven projects by researching and mapping crude production, quality, and infrastructure in Google Earth and Spotfire. Built economic models for proposed crude purchasing and transportation projects. Used time series forecasting to supplement data gaps in chronological records of blended, traded, and purchased crude volumes.

**Lead Data Analyst – iBeautify Me**

Aug 2014 – Dec 2014

Aided in building the business plan through duties such as creating projections of consumer growth over time and total addressable market analyses. Illustrated key locations for future company growth through heat map visualizations of the total addressable market analysis. Studied and applied data on internet traffic to myriad social platforms (Facebook, Instagram, etc) to maximize outreach and interest.

**Data Science Intern – Geometeor, LLC.**

Dec 2013 – Apr 2014

Wrote code in both JAVA and Python to parse sets of spatiotemporal “big data” for more efficient analysis. Maintained a data and programming related blog written in HTML. Analyzed census data to study migration patterns and their interaction with weather anomalies.

Research  
Experience

**Data Research Assistant – Tennessee Department of Health**  
Utilized hospital discharge, death record, and controlled substances monitoring database (CSMD) data to design analyses on geospatial predictors of prescription opioid diversion in the state of Tennessee. Gained experience in data curating in SQL Server Management Studio.

Jun 2017 – Jul 2017

**Research Assistant - University of Florida College of Liberal Arts and Sciences**  
Statistics Department. Supported Dr. Samuel Wong in his research on computational biology, specifically protein folding. Assisted Dr. Wong in running high power computational simulations of biological processes and investigating previous works on potential energy functions. Analyzed simulation output from multiple energy functions to investigate best parameters to predict protein structure from an inputted amino acid sequence.

Aug 2015 – Mar 2016

**Senior Research Associate - University of Florida College of Education**  
Institute of Higher Education, School of Human Development & Organizational Studies in Education. Actively engaged in topic selection, data collection, and drafting of published research studies about post-secondary education and the experience of college-aged people under the direction of Dr. Dennis Kramer. Conducted literature reviews for studies about the voting behavior of college students and grading bias in the post-secondary classroom. Executed independent research incorporating statistical modeling into higher education, especially focused on enrollment and admissions decisions.

Mar 2015 – Apr 2016

Undergraduate  
Honors Thesis

*Comparing Admission and Enrollment Outcomes through a Spatial Scope*  
Abstract: The university application, admission, and enrollment process involves an intricate sequence of decision making. Initial consideration depends entirely on a potential student's choice to turn interest into action and submit an application. Subsequent assessments must be made by admissions officers of the applicant's qualification and likelihood of success at their institution. Assuming a positive admissions outcome, the final verdict lies in the hands of the individual student: where will they choose to matriculate? The natural means to attaining the best possible class of incoming freshman is through targeting not only the most qualified, but also the most likely to enroll. This paper investigated methods to predict an individual's probability of gaining admission to and later enrolling at a large, land-grant research university through the use of logit general linear models with additional consideration for location-based predictors, as well as comparative data analysis on characteristics of admitted students from varied distances (based on their high school) through ANOVA, paired t-tests, and odds-ratios. Results of these tests pinpointed applicants coming from 100 – 200 miles from the university with the highest odds of admission, and admits living less than 100 miles away with the greatest odds of enrollment. ANOVA and subsequent t-tests indicated that average applicant standards varied between applicants from different distances to the university, which could be explained by institutional efforts in geographic diversity. The full paper is available online through the University of Florida at <http://ufdc.ufl.edu/AA00046961>.

May 2016

Presentation  
Experience

**Guest Speaker – RLadies Nashville**  
Led a tutorial on an Introduction to Geocoding, Calculating Distances, and Map Making in R. The tutorial, including R code and discussion, is available online at <https://github.com/sarahlotspeich/MappingInRTutorial>.

Sep 2017



Poster Presenter – University of Florida Undergraduate Research Symposium  
Invited to present honors thesis research *Comparing Admission and Enrollment Outcomes through a Spatial Scope*. Available online through the University of Florida at <http://ufdc.ufl.edu/AA00040134/00059>.

Mar 2016

Hackathon  
Experience

Vandy Hacks  
Nashville Open Data Explorer(NODE): This Amazon Alexa skill queries Nashville Open Data for information on a variety of data collected by the city of Nashville. You can even ask which parks have picnic spots or about Nashville sculptures. Available online at <https://devpost.com/software/node-nashville-open-data-explorer-d24xt8>.

Oct 2017

Workshop  
Experience

Education and Outreach (E&O) Workshop – Statistical and Applied Mathematical Sciences Institute (SAMSI)  
Accepted with full scholarship to attend a multi-day lecture series sponsored by SAMSI introducing topics on neurohacking, computed tomography, discrete Fourier transformations, mathematical modeling, diffusion tensor imaging, and various other topics derived from the SAMSI initiative Challenges in Computational Neuroscience (CCNS). Actively engaged in programming demos for topics in R, Matlab, and Python.

Oct 2015

Programming

R, LaTeX, STATA, SQL, Java, Python, Minitab, Matlab, Linux

ArcGIS, Spotfire, Google Earth, Heat Maps

Spatial Analysis

Fluent in conversational Spanish/ intermediate in business Spanish.  
Experienced with all Microsoft applications and social networking.

Skills

Vanderbilt University

1. Methods of Modern Biostatistics
2. Fundamentals of Probability
3. Epidemiologic Theory and Methods
4. Introduction to Study Design
5. Introduction to Statistical Computing
6. Contemporary Statistical Inference
7. Modern Regression Analysis
8. Clinical Trials and Experimental Design
9. Advanced Regression Analysis I
10. Applied Survival Analysis
11. Advanced Concepts in Probability and Real Analysis
12. Statistical Collaboration

Relevant  
Coursework

University of Florida

1. Introduction to Statistics I
2. Introduction to Statistics II
3. Regression Analysis
4. Design of Experiments
5. Sample and Survey Design
6. Introduction to Probability
7. Introduction to Statistical Theory
8. Time Series and Forecasting
9. Categorical Data Analysis
10. Medical Geography
11. Computational Linear Algebra



- 12. Abstract Linear Algebra
- 13. Calculus I, II, III
- 14. JAVA Programming

Campus Involvement	Secretary – Vanderbilt Student Chapter of the American Statistical Association	Aug 2017 - Present
	Secretary – Vanderbilt Biostatistics Graduate Student Association	Aug 2017 - Present
	R-Ladies Nashville	Nov 2016 - Present
	President/ Founder – Ailigeadar Irish Dance Company	Jan 2014 – May 2016
	Employer Relations Ambassador – UF Career Resource Center	Apr 2015 – May 2016
	Secretary/ Executive Board Member – Student Honors Organization	Aug 2014 – May 2015
Community Involvement	Child Life Volunteer – The Monroe Carell Jr. Children’s Hospital at Vanderbilt	Jan 2017 – Apr 2017
	Patient Tutor – The Monroe Carell Jr. Children’s Hospital at Vanderbilt	Oct 2016 – Dec 2016
	Event Coordinator/ Volunteer – Base Camp Foundation for Children	Aug 2012 – Mar 2013
	Pasta for Pennies Coordinator – Leukemia & Lymphoma Society	Aug 2012 – Oct 2013
	Patient Transportation Volunteer – Cape Canaveral Hospital	Jun 2010 – Aug 2012
Memberships	American Statistical Association	Oct 2016 - Present
	Phi Kappa Phi	Oct 2015 - Present
Honors/ Awards	College of Liberal Arts and Sciences Dean’s List – University of Florida	Apr 2016
	Phi Kappa Phi	Oct 2015 - Present
	Golden Key Honor Society	May 2014 - Present
	National AP Scholar	May 2013
	Rotary Club Student of the Month	May 2013
	World, National, and Southern Region Irish Dance Champion	
Scholarships/ Fellowships	Vanderbilt University Graduate Fellowship	Aug 2016 – May 2021
	Florida Academic Scholar	Aug 2013 – May 2016
	Elk’s National Foundation Most Valuable Student Scholarship	Aug 2013
	Irish Dance Teacher Association of North America Scholarship	Jul 2013
	Edgewood Jr. Sr. High School Spanish Honor Society Scholarship	May 2013