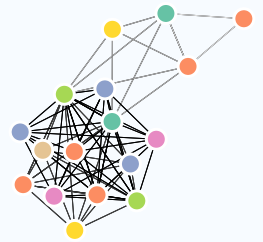


# MEGAN HOLLISTER MURRAY

Currently searching for a summer 2021 internship position that allows me to build tools with statistical modeling and machine learning. I want to increase my industry connections for future job and research opportunities.



## EDUCATION

- Current  
|  
2017
- **PhD. Candidate, Biostatistics**  
Vanderbilt University 📍 Nashville, TN
    - False Discovery rates<sup>7</sup>, Machine Learning methods, and Second Generation p-values
    - Research Assistant
- 2017  
|  
2013
- **B.S., Mathematics**  
Baylor University 📍 Waco, TX
    - Honors Thesis: Multi-Parameter Functions in Chaotic Dynamical Systems

## RESEARCH EXPERIENCE

- Current  
|  
2020
- **Graduate Research Assistant**  
Vanderbilt University 📍 Nashville, TN
    - Identifying determinants of racial disparities in lung cancer stage
    - Grant for Dr. Melinda Aldrich
- 2020  
|  
2018
- **NIH TL1 Trainee**  
Vanderbilt University 📍 Nashville, TN
    - An evaluation of machine learning and classical statistical methods for discovery in large-scale translational data.
    - I worked on a specific project comparing machine learning methods and statistical inference methods in large-scale translational data. We found that traditional methods perform as well as machine learning methods for simple tasks of identifying discoveries in large swaths of otherwise non-differentiated groups.
- 2019  
|  
2018
- **Graduate Lab**  
Vanderbilt University 📍 Nashville, TN
    - "Large-Scale Inference" by Bradley Efron
    - A small group of students and professors read through and discussed in detail the first 6 chapters of Efron's book along with a selection of complimentary papers.

## CONTACT



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[github.com/murraymegan](https://github.com/murraymegan)



[meganhmurray.com](https://www.linkedin.com/in/murraymegan25)

**in**

[www.linkedin.com/in/murraymegan25](https://www.linkedin.com/in/murraymegan25)

## LANGUAGE SKILLS



Made with the R package [page-down](#).

The source code is available on my [GitHub](#).

Last updated on 2020-10-30.

2017  
|  
2015



### Undergraduate Lab

Baylor University

📍 Waco, TX

- “An Introduction to Chaotic Dynamical Systems” by Robert L. Devaney
- A small group of students carefully read and proved theorems and propositions from this book. We met weekly as a group to present and discuss them with Dr. Brian Raines.

2016  
|  
2016



### Undergraduate Researcher

North Carolina State University

📍 Raleigh, NC

- Applied Mathematics Research Experience for Undergraduates
- I spent three months mathematically modeling chemical absorption and metabolism through the skin. I was on a team of four undergraduate students from around the U.S. We were mentored by a biochemist from the EPA and multiple graduate students.



## TEACHING EXPERIENCE

Current  
|  
2020



### Probability & Statistical Inference

Vanderbilt Data Science Department

📍 Nashville, TN

- Head TA
- This masters course covers the fundamentals of probability theory and statistical inference. Topics include distributions, law of large numbers, central limit theorem, maximum likelihood, and hypothesis and significance testing.

2020  
|  
2020



### Contemporary Statistical Inference

Vanderbilt Biostatistics Department

📍 Nashville, TN

- TA and lectured
- This graduate course explains the goal(s) of statistical tools for inference and the role of likelihood functions. Students will be expected to learn the analytical proofs as well as apply knowledge to real-life data.

2019  
|  
2019



### Probability & Statistical Inference

Vanderbilt Data Science Department

📍 Nashville, TN

- TA
- This masters course covers the fundamentals of probability theory and statistical inference. Topics include distributions, law of large numbers, central limit theorem, maximum likelihood, and hypothesis and significance testing.

I have really enjoyed teaching. I believe passionate and enthusiastic teachers/professors make all the difference in students' success.



## SELECTED PUBLICATIONS, POSTERS, AND TALKS

2020  
|  
2020



### Factors Influencing Precision Medicine Knowledge and Attitudes<sup>2</sup>

PLOS One

- Authored with Rohini Chakravarthy, Sarah Stallings, Michael Williams, Mario Davidson, Juan Canedo, and Consuelo H. Wilkins.
- Accepted and waiting publication.

- 2020  
|  
2020
- **False Discovery Rate Computation: Illustrations and Modifications<sup>3</sup>**  
Arxiv
    - Authored with Jeffrey D. Blume.
    - In process of being submitted to the R Journal.
- 2019  
|  
2019
- **Short Oral Presentation**  
ENAR Conference 📍 Philadelphia, PA
    - An evaluation of machine learning and classical statistical methods for discovery in large-scale translational data.
- 2019  
|  
2019
- **Poster Presentation**  
ACTS Conference 📍 Washington D.C.
    - An evaluation of machine learning and classical statistical methods for discovery in large-scale translational data.
    - Ranked in top 25% of posters
- 2017  
|  
2017
- **Poster Presentation**  
Joint Mathematics Meeting 📍 Atlanta, GA
    - Modeling Dermal Diffusion and Metabolism for Consumer Products
    - Ranked in top 10% of posters



## AWARDS AND SCHOLARSHIPS

- 2020  
|  
2017
- **The University Graduate Fellowship**  
Vanderbilt University 📍 Nashville, TN
    - Awarded by the Graduate School to highly qualified students entering study for the PhD or the master's degree.
- 2020  
|  
2019
- **Distinguished Teaching Assistant**  
Vanderbilt Biostatistics Department 📍 Nashville, TN
    - Awarded each year based on student recommendations for a helpful and intelligent teaching assistant.



## LINKS

- 1: <https://github.com/murraymegan/FDRestimation>
- 2: <https://www.biorxiv.org/content/10.1101/2020.06.04.133942v1.abstract>
- 3: <https://arxiv.org/abs/2010.04680>