

# BENJAMIN DRAVES

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(330) 428-5025

## EDUCATION

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### **Boston University - Boston, MA**

*Degree expected 2021*

Ph.D Candidate in Statistics, M.A. in Statistics

GPA: 3.98

- Qualifying Exams: *Applied Stat., Probability*. Preliminary Exams: *Mathematical Stat., Applied Stat.*
- Relevant Coursework: Machine Learning, Non/Semi-Parametric Data Modeling, Computational Statistics, Network Analysis & Graph Algorithms, Advances in Bayesian Computation, Generalized/Linear Models

### **Lafayette College - Easton, PA**

*May 2017*

B.S. in Mathematics, *Summa Cum Laude*

GPA: 3.90

- Honors: Departmental Honors with Thesis, Barge Oratorical Prize (most compelling thesis defense), Mitman Mathematics Award (most outstanding mathematics major), DataFest 2017 Award Recipient

## RESEARCH PROJECTS

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### **Multiple Network Embeddings**

2018 - Present

Analyzed joint network embedding techniques for collections of heterogeneous networks. Manuscript submitted.

Preprint: *here*. Repository: *here*.

- Proved concentration results and central limit theorems for node embeddings.
- Leveraged these theoretical results to develop statistical principled algorithms for multiple network community detection, clustering of network observations, and network hypothesis testing.

### **Denoising Sparse Covariance Matrices**

2016 - 2018

Developed iterative algorithms that denoise sparse, positive-definite matrices. Manuscript in preparation.

- Utilized spectral representations of positive-definite matrices that capture local covariance structure for improved smoothing by eigenvalue thresholding.
- Applied to refining estimates of distant genetic relatedness in genome-wide association studies (GWAS).

## EXPERIENCE

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### **Lead Statistical Consultant**

2016 - Present

- BU Consulting: Oversaw a team of 14 masters students working in BU's consulting center. Completed 35 projects for researchers at BU over 10 months. Led statistical decision making, managed team workflows in weekly lab meetings, and interfaced with clients throughout the project life cycle.
- Freelance Consulting: Clients included *Crayola.com*, *Ryan Center - PT Treatment Center*, *University of Mount Union Academic Affairs*, *Victaulic*, *Easton Area Public Schools*, *Easton Area Neighborhood Center*.

### **Data Analyst Intern: National Interstate**

June - August 2017

Adapted and implemented a boosted, generalized regression tree to predict claim frequency and severity. Accounted for 42% weight in final implemented model.

### **Graduate Instructor**

2019 - Present

Taught discussion sessions to 30 undergraduate/graduate students in Statistics I and Stochastic Processes. Created weekly lectures, exercises, and group activities to reinforce concepts introduced in the main lecture.

### **Leadership Positions**

2017 - Present

BU Student Chapter of the ASA Board Member, BU Network Seminar Organizer, Ignite Student Council

## PROGRAMMING CAPABILITIES

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### **Proficient**

R, Java, Github, Unix Environment

### **Intermediate**

Python, SQL, Mathematica, SAS

### **Typesetting**

LaTeX, R Markdown, Microsoft Office