

# BENJAMIN DRAVES

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dravesb.github.io

## EXPERIENCE

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### Statistical Consultant

2016 - Present

- *Consulting Manager*: Oversaw a team of 14 masters students working in BU's consulting center. Completed 22 projects for researchers at BU over 8 months. Led statistical decision making, managed team workflows in weekly lab meetings, and interfaced with clients throughout the project life cycle.
- *Statistical Consultant*: Primary summer consultant in the BU consulting center. Performed statistical analyses and wrote concise summary reports for 15 clients in 3 months informing future research agendas.
- *Freelance Consulting*: Clients included Ryan Center - PT Treatment Center, University of Mount Union Academic Affairs, Crayola.com, Victaulic, Easton Area Public Schools, Easton Area Neighborhood Center.

### Graduate Instructor

2019 - Present

Created weekly lectures, exercises, and group activities for discussion sessions given to 30 undergraduate/graduate students. Classes include: Intro. to Statistics I, Intro. to Computer Science I, Graduate Stochastic Processes.

### Data Analyst Intern: *National Interstate*

June - August 2017

Adapted and implemented a boosted, generalized regression tree to predict claim frequency and severity. Enabled pricing team to utilize ensemble techniques resulting in increased confidence in traditional modeling approaches.

### Leadership Positions

2017 - Present

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

## 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, Generalized/Linear Models, Bayesian Statistics/Computation, Network Analysis & Algorithms.

### 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.

- Proved concentration inequalities and central limit theorems for node embeddings. Leveraged these results to develop algorithms for community detection, clustering of network observations, and hypothesis testing.
- Manuscript submitted. Preprint: *here*. Repository: *here*.

### Denoising Sparse Covariance Matrices

2016 - Present.

- Utilized spectral representations of positive definite matrices to regularize covariance estimates via eigenvalue-thresholding. Applied to refining estimates of distant genetic relatedness in genome-wide association studies.
- Manuscript under revision. Repository: *here*.

## PROGRAMMING CAPABILITIES

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**Proficient** R (dplyr, tidyverse, ggplot2), Python (pandas, numpy, matplotlib, scikit-learn), SQL, GitHub.

**Intermediate** Java, SAS, MATLAB, Mathematica.

**Other** LaTeX, R Markdown, Unix Environment.