

BENJAMIN DRAVES

benjamin.draves@gmail.com

(330) 428-5025

EDUCATION

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

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 statistically 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

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

Proficient	R, Java, Github, Unix Environment
Intermediate	Python, SQL, Mathematica, SAS
Typesetting	LaTeX, R Markdown, Microsoft Office