

LUKE S. BENZ

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EDUCATION

Yale University, New Haven, CT

May 2019

- *Bachelor of Science: Applied Mathematics (Concentration in Statistics and Data Science)*
- GPA: 3.97
- Phi Beta Kappa (Early Selection, Fall 2018), Summa Cum Laude
- Relevant Coursework: *Data Mining and Machine Learning, Data Analysis, Probability, Theory of Statistics, Bayesian Statistics, Real Analysis, Discrete Mathematics, Intensive Algorithms, Linear Models, Data Structures, Senior Thesis*
- Language Skills: Spanish; high oral/written proficiency
- Computer Skills: R, Python, SQL, Shiny, C, HTML/CSS, LaTeX

EXPERIENCE

National Institute of Standards and Technology, Gaithersburg, MD

Summers 2017 and 2018

Summer Undergraduate Research Fellow (SURF)

- Research fellow in IT Lab Statistical Engineering Division for Dr. Antonio Possolo (2018) and Dr. Andrew Rukhin (2017).
- Built *NIST Homogeneity Assessor* (NIHOMA), an R Shiny web application for exploring homogeneity of candidate reference materials using linear, Gaussian random effects model (Summer 2018).
- Published R Package *NIHOMA.App* and NIST Homogeneity Assessor User's Manual (Summer 2018).
- Explored techniques for estimating heterogeneity variances in order to improve methods for combining results in collaborative studies with unreliable reported uncertainties (Summer 2017).
- Ran Monte Carlo simulations in R and MATLAB to compare various meta-analysis estimators (Summer 2017).

Yale School of Public Health—Department of Biostatistics, New Haven, CT

June 2016- May 2019

Research Assistant for Elizabeth Claus MD, PhD

- Analyze quality of life data for cancer patients with meningioma and low-grade glioma.
- First author on a paper entitled "*Quality of Life after Surgery for Intracranial Meningioma*". Manuscript published in journal *Cancer*, September 2017.
- Manage the recruitment and enrollment for the International Low Grade Glioma Registry.

Yale Undergraduate Sports Analytics Group (YUSAG), New Haven, CT

September 2015-May 2019

President (December 2016 – Present)

- Use mathematical and statistical modeling techniques to conduct original research projects using sports data.
- Designed 2019-2027 Ivy League Field Hockey and M/W Soccer schedules at request of the Ivy League athletic office.
- Conduct lineup analyses, create assist networks, and aid with scouting reports for Yale Men's Basketball team.
- Write articles covering Yale Athletics and Ivy League sports for the Yale Daily News.

Yale Concert Band, New Haven, CT

August 2015-May 2019

Trombone

- Responsibilities include twice-weekly rehearsals, several concerts, and international tours.

Yale Departments of Mathematics and Physics, New Haven, CT

August 2016-January 2018

Undergraduate Learning Assistant (TA) and Peer Tutor

- Reviewed course material (PHYS 180) and problem sets with students seeking support during office hours.
- Tutored several individuals in Calculus I, II and Multivariable Calculus (MATH 112, MATH 115, and MATH 120).

AWARDS AND CONFERENCES

- American Statistical Association: *Statsketball: Build Your Own Bracket Draft Challenge*, 2018 College Winner
- MIT Sloan Sports Analytics Conference attendee, 2017 and 2018; NBA Hackathon Participant, 2016
- Michael Manzela Fellowship Supporting Cancer Research and the Arts: Yale University, Summer 2016
- George J. Schulz Fellowship for the Natural Sciences: Silliman College of Yale University, Summer 2016