

Samuel K. Balls

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EDUCATION

B.S. in Statistics

April 2025

Department of Statistics

Brigham Young University, Provo, UT

Minor: Mathematics

GPA: 3.94/4.0

HONORS & AWARDS

Dean's List - Awarded Fall 2023, Winter 2023, and Winter 2024

Merit-based Scholarship - Awarded half-tuition for academic excellence, 2023 – 2025

RESEARCH INTERESTS

- Bayesian Statistics
- Statistical Learning
- Algorithmic Fairness and Ethical AI

RESEARCH EXPERIENCE

Statistical Research Assistant

April 2024 – Current

Brigham Young University, Provo, UT

Advisor: Jake Rhodes

- Developed Python implementation of Random Forest Geometry- and Accuracy-Preserving (RF-GAP) proximities for data imputation, improving skills in NumPy, pandas, scikit-learn, and Matplotlib
- Conducted literature review on missing data imputation, evaluating techniques for measuring imputation quality and identifying current best methods for imputation
- Currently benchmarking RF-GAP imputation against various methods across multiple datasets, in both supervised and unsupervised cases, and with different levels of missingness

TEACHING EXPERIENCE

Teacher's Assistant - Statistics

December 2022 – December 2023

Brigham Young University, Provo, UT

- Oversaw performance of over 40 students, conducting outreach for one-on-one assistance
- Produced weekly review presentations and instructed 100+ students on challenging statistics concepts
- Inspected students' work with quality and efficiency, while providing quick instructive feedback

LEADERSHIP

Statistical Science Representative
BYU Statistics Association

April 2024 – Current

ACADEMIC EXPERIENCE

Completed Coursework: Calculus I-III, Linear Algebra, Mathematical Statistics, Probability, Real Analysis I, Fundamentals of Mathematics, Applied R Programming, Introduction to Computer Science, Statistical Modeling I

Upcoming Coursework: Statistical Modeling II, Data Science Process, Introduction to Bayesian Statistics, Applied Bayesian Statistics, Predictive Analytics, Analysis of Correlated Data

WORK EXPERIENCE

Analytics Intern
Extra Space Storage, Salt Lake City, UT

October 2023 – April 2024

- Translated complex datasets into clear visualizations, facilitating a more accessible understanding of business trends and contributing to improved strategic planning
- Utilized Python and SQL programming languages to perform in depth data analysis, deriving insights which enhanced customer acquisition and increased revenue
- Collaborated with cross-functional teams to identify data-driven opportunities, improve operational efficiency, and optimize resource allocation

Consulting Intern
Airbus (via the Beacon Fellowship), Madrid, Spain

June 2023 – July 2023

- Evaluated economic value creation of rapid prototyping for world's largest commercial airplane manufacturer
- Compared business model (financing, tech capabilities, operations, marketing) of in-house lab against direct competitors (Boeing, Northrop Grumman, Raytheon, Lockheed Martin) and 6 other industry leaders
- Conducted 8 expert interviews to identify best practices for operation and presented success plan to executives

SKILLS

- **Programming Languages:** Python, R, SQL
- **Languages:** English, Spanish

MEMBERSHIPS

- American Statistical Association 2024 - Current
- International Society for Bayesian Analysis 2024 - Current