BEN WOODRUFF

🖥 WORK EXPERIENCE

2005
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Current

Professor of Mathematics
Brigham Young University – Idaho   📍 Rexburg, ID

- Teach undergraduate mathematics, data science, and statistics courses such as multivariate calculus, data wrangling and visualization, abstract algebra, introduction to analysis, linear algebra (intro and senior level), differential equations (ordinary and partial), engineering statistics, etc.
- (2024) Co-managed (with Dr. Michael Dorff and Dr. Jen Brooks) a 7 week REU at BYU in Provo for 4 students from BYU-Idaho, focusing on extending research related to complex harmonic polynomials.
- (2021+) Collaborated to create an R (tidyverse) data wrangling and visualization text, serving 200+ students a year and growing.
- (2019+) Collaborated to create *Applied Calculus for Data Analysis*, a calculus course focusing on data science applications, wrote over 1/3 of the course text, and wrote and maintain all course related R Shiny apps.
- (2013+) Department webmaster, serving a variety of courses impacting over 30 instructors and 5000 students every semester, including setup and maintenance for open source PHP wikis and SQL databases.
- (2014+) Created and maintain a JavaScript normal probability applet used by statistics courses at BYU-I and BYU Pathway World wide, serving 2500+ students a year around the globe.
- (2015-18) Used R to automate course package creation for all on campus statistics courses, saving faculty 1000+ hours.
- (2009+) Created and maintain PmWiki's open source jsMath and SageCell cookbooks.
- (2005 - current) Create open source textbooks, problem sets, and more. See byuimath.com/bmw/all/pw.
- (2012+) Department internship coordinator: mentor 10-30 majors/year.
- (2021+) Mastery Learning Practitioner Coordinator and Thinkshop Lead

2002
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current

Mathematical Association of America Service
Intermountain Section of the MAA   📍 maa.org

- Intermountain Section Teaching Award (2016)
- Contributed talks organizer (2012-14) - coordinate 50+ conference talks
- Elected First Vice Chair (2015-16) - section leadership
- Webmaster and technical support (2016-22) - section leadership
- Conference organizer for yearly meeting (2021) with 150+ participants

2024

Tech Lead for Generative AI NumPy Project
POSSEE via OpenTeams   📍 possee.org

- Led a team of student interns to create an automated system capable of adding thousands of AI generated examples into NumPy's documentation (see https://github.com/possee-org/genai-numpy).

CONTACT INFO

✉ bmwoodruff@gmail.com

🌐 byuimath.com/bmw/all/pw/

🐙 github.com/bmwoodruff

SKILLS

Highly skilled in LaTeX (20+ years), R (8+ years), Mathematica (10+ years), and Linux (20+ years). Capable and familiar with many other languages including HTML/CSS, JavaScript, SQL, C++, Python, and more.

Data visualization instruction using tidyverse.

Mathematics, Data Science and Statistics teaching and course development.

Author and coauthor for 10+ open source education texts/problem sets for mathematics, statistics, and data science.

🎓 EDUCATION

2005 • **Brigham Young University**
Ph.D. in Mathematics (summa cum laude) 📍 Provo, Utah

Dissertation: Statistical Properties of Thompson's Group and Random Pseudo Manifolds

2001 • **Utah State University**
B.S. in Mathematics (summa cum laude) 📍 Logan, Utah