

Brian D. Christman

University of Mississippi Medical Center | Department of Data Science
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EDUCATION

- 2021-Present University of Mississippi Medical Center (UMMC), Jackson, Mississippi
PhD student in Biostatistics and Data Science
- 2021-2023 University of Mississippi Medical Center, Jackson, Mississippi
Master of Science in Biostatistics and Data Science
Honors: *summa cum laude*
- 2017-2021 Rhodes College, Memphis, Tennessee
Bachelor of Science in Biomathematics
Minor in Urban and Community Health
Minor in Music
Honors: *cum laude*

WORK HISTORY

- 2022–Present Mississippi Department of Education Graduate Assistant, Department of Preventive Medicine, UMMC
- 2022–Present Statistical Consultant, Mississippi Public Health Institute
- 2021 Student Project Analyst, Department of Psychiatry and Human Behavior, UMMC
- 2020 Health Equity Intern, Rhodes College
- 2019–2020 Preventive Medicine Intern, University of Tennessee Health Science Center
- 2019–Present Private Mathematics Tutor, Memphis, Tennessee

TEACHING EXPERIENCE

- 2023 Teaching Assistant for Systems Science and Econometrics for Population Health (PHS 753), UMMC School of Population Health
- 2022 Guest Lecturer for Common Treatment Comparison Statistics (Step 1 Review Series), UMMC School of Medicine
- 2022 Guest Lecturer for Mortality, Case Fatality, and Survival Analysis (Conj 612), UMMC School of Medicine
- 2022 Guest Lecturer for Absolute and Relative Risk, Odds Ratios, and Number Needed to Treat (Conj 612), UMMC School of Medicine
- 2022 Guest Lecturer for Regression Analyses (Conj 612), UMMC School of Medicine
- 2021 Manuscript Editor for Math Modeling (Math 315), Rhodes College
- 2018–2020 Teaching Assistant for Applied Calculus (Math 115), Rhodes College
- 2017–2019 Teaching Assistant for Discrete Mathematics with Biological Applications (Math 214), Rhodes College

RESEARCH EXPERIENCE

- 2023–Present **Pediatric Obesity Management Study: Assessment of Diabetes and Obesity Among Mississippi Youth**
Advisors: Drs. Abigail Gamble, Lei Zhang, and William Hillegass, UMMC
- 2022–Present **A Run-in Phase Design and Design Classification Framework for Comparative Therapeutic Trials**
Advisor: Dr. William Hillegass, University of Mississippi Medical Center, UMMC
- 2021–Present **Comparative Performance of Indirect Treatment Comparison Estimators**
Advisor: Dr. William Hillegass, UMMC
- 2021–Present **Population-level Assessment of Adolescent Suicidality in Mississippi**
Advisors: Drs. Yunxi Zhang, Lei Zhang, and William Hillegass, UMMC
- 2021–2022 **Machine Learning Risk Prediction of Youth Suicidality in Mississippi**
Advisors: Drs. Yunxi Zhang, Yufeng Zheng, and William Hillegass, UMMC
- 2020–2021 **Developing a Demographic Model of the Endangered Florida Native Bromeliad *Tillandsia fasciculata***
Advisor: Dr. Erin Bodine, Rhodes College
- 2019–2021 **Modeling Population Dynamics of the American chestnut (*Castanea dentata*) in west Tennessee**
Advisor: Dr. Robert Laport, Rhodes College
- 2019–2020 **Prostate Cancer Disparities in the Mid-South Region**
Advisor: Dr. Jay Fowke, University of Tennessee Health Science Center
- 2018–2020 **A Demographic Model of the Endangered Florida Native Bromeliad *Tillandsia utriculata***
Advisor: Dr. Erin Bodine, Rhodes College
- 2018–2019 **Habitat use by Loggerhead Shrikes (*Lanius ludovicianus*) in the Lower Mississippi Alluvial Valley**
Advisor: Dr. Michael Collins, Rhodes College

PUBLICATIONS

Zheng Y., Christman B., Morris M., Hillegass W., Zhang Y., Douglas K., and Zhang L. 2022. Adolescent Behavioral Risk Analysis and Prediction Using Machine Learning: A Foundation for Precision Suicide Prevention. Proc. SPIE 12100, Multimodal Image Exploitation and Learning 2022 <https://doi.org/10.1117/12.2620105>

Laport R. G., Brookover Z. S., **Christman B. D.**, Ng J., and Craddock J. H. 2022. Environmental niche and demographic modeling of remnant American chestnut near the southwestern range limit in southwest Tennessee and north Mississippi. *The American Midland Naturalist*, 188(2), 137-176. <https://doi.org/10.1674/0003-0031-188.2.137>

Brookover Z. S., Campbell A. M., **Christman B. D.**, Davis S. L., and Bodine E. N. 2020. A Demographic Model of the Endangered Florida Native Bromeliad *Tillandsia utriculata*. *Spora: A Journal of Biomathematics*: Vol. 6, 1–15. <https://ir.library.illinoisstate.edu/spora/vol6/iss1/2>

RESEARCH PRESENTATIONS

Sylvester, H., Turk, P., Anugu, A., Blackshear, C., **Christman, B.**, Welsch, M., and Gamble, A. Telehealth Diabetes Prevention Intervention for the Next Generation of African American Youth Pilot Trial. Southern Regional Meeting, New Orleans, LA. February 2023. *Oral presentation*

Christman B., Hillegass W., Zhang Y., Kelly C., Morris M., Douglas K., Zheng Y., and Zhang L. Assessment of Suicidality Amongst Mississippi Adolescents Using the Youth Risk Behavior Survey: A Parametric Approach. Mississippi Public Health Association Annual Conference. Flowood, MS. April 2022. *Poster presentation*

Zheng Y., **Christman B.**, Morris M., Hillegass W., Zhang Y., Douglas K., Kelly C., and Zhang L. Adolescent Behavioral Risk Analysis and Prediction Using Machine Learning: A Foundation for Precision Suicide Prevention. Society of Photo-Optical Instrumentation Engineers Defense + Commercial Sensing Conference. Orlando, FL. April 2022. *Poster presentation*

Christman B., Hillegass W., Zhang Y., Kelly C., Morris M., Douglas K., Zheng Y., and Zhang L. Assessment of Suicidality Amongst Mississippi Adolescents Using the Youth Risk Behavior Survey: A Parametric Approach. University of Mississippi Medical Center School of Nursing Research and Scholarship Day. Flowood, MS. March 2022. *Poster presentation*

Zheng Y., **Christman B.**, Morris M., Hillegass W., Zhang Y., Douglas K., Kelly C., and Zhang L. Adolescent Behavioral Risk Analysis and Prediction Using Machine Learning: A Foundation for Precision Suicide Prevention. University of Mississippi Medical Center School of Nursing Research and Scholarship Day. Flowood, MS. March 2022. *Poster presentation*

Bodine E. N., Brookover Z. S., **Christman B. D.**, Davis S. L., and Kohnke A. Can Modeling Save Florida's Native Bromeliads from the Evil Weevil? International Symposium on Biomathematics on Biomathematics and Ecology Education and Research. Conference Moved Online. November 2020. *Oral presentation*

Brookover Z. S., **Christman B. D.**, and Laport R. Modeling Population Dynamics of the American chestnut (*Castanea dentata*) Near the Historical Range Limit in west Tennessee. Botany 2020. Conference Moved Online. July 2020. *Poster presentation*

Brookover Z. S., Campbell A. M., **Christman B. D.**, Davis S. L., and Bodine E. N. A Demographic Model of the Endangered Florida Native *Tillandsia utriculata*. International Symposium on

Biomathematics and Ecology Education and Research. La Crosse, WI. October 2019. *Poster presentation*

Brookover Z. S., Campbell A. M., **Christman B. D.**, Davis S. L., and Bodine E. N. Using Stage-Structured Matrix Models to Understand Demographic Impact of Life History Strategies in Florida *Tillandsia*. Rhodes Symposium. Memphis, TN. April 2019. *Poster presentation*

Christman B. D., Dorn P., Popescu M., and Collins M. Habitat use by Loggerhead Shrikes (*Lanius ludovicianus*) In the Lower Mississippi Alluvial Valley. Memphis Chapter - Tennessee Ornithological Society. Memphis, TN. February 2019. *Oral presentation*

Christman B. D., Donahue E., Boves T., Bryant L., Dorn P., Levesque C., O'Reilly A., Popescu M., Raibley R., Wessels J., Worm A., Youtz J., and Collins M. Habitat use by Loggerhead Shrikes (*Lanius ludovicianus*) in the Lower Mississippi Alluvial Valley. International Ornithological Congress. Vancouver, Canada. August 2018. *Poster presentation*

Christman B. D., Dorn P., Levesque C., O'Reilly A., Popescu M., and Collins M. Habitat use by Loggerhead Shrikes (*Lanius ludovicianus*) in the Lower Mississippi Alluvial Valley. Rhodes College Undergraduate Research and Creative Activity Symposium. Memphis, TN. April 2018. *Poster presentation*

AWARDS & ACHIEVEMENTS

2023	Student Marshal - Commencement, UMMC
2023	Scholastic Award, UMMC
2022-2023	The Dean's Award for Academic Excellence, UMMC
2021	Omicron Delta Kappa National Leadership Honor Society
2019–2021	TriBeta Biology Honor Society
2019–2021	Order of Omega Greek Honor Society

LEADERSHIP ROLES

2022–Present	Department of Data Science Student Representative, UMMC
2021–2022	Department of Data Science Vice Chair, UMMC
2020	Secretary for the Order of Omega Greek Honor Society, Rhodes College
2020	Alumni Relations Chairman of the Sigma Nu Fraternity, Rhodes College
2019–2021	Vice President of Aftermath (Mathematical Association of America – Student Chapter at Rhodes College), Rhodes College
2019–2020	President and Founder of Roots (Botanical Society of America – Student Chapter at Rhodes College), Rhodes College
2018–2019	Scholarship Chairman of the Sigma Nu Fraternity, Rhodes College

PROFESSIONAL SERVICE

2022–Present Member, The Mississippi Opioid and Heroin Data Collaborative
2022–Present Member, Mississippi State Epidemiological Outcomes Workgroup
2021–Present Student Member, School of Medicine System-Based Practice Subcommittee, UMMC

COMMUNITY OUTREACH

2021–Present Volunteer for the Myrlie Evers-Williams Institute for the Elimination of Health Disparities
2020 Telehealth Operator for the Wellness & Stress Clinic of Memphis
2019–2021 Ambassador for the International Children's Heart Foundation
2018–2019 Volunteer Research Assistant at the Memphis Zoo
2017–2020 Volunteer at the Memphis Zoo

SCHOLARSHIPS, FELLOWSHIPS, AND GRANTS

2021–Present Dean's Scholarship, UMMC
2019 Biomathematics Student Research Fellowship, Rhodes College
2018 Biology Student Research Fellowship, Rhodes College
2018 Conservation and Research Grant, Tennessee Ornithological Society
2017–2021 Diehl Scholarship, Rhodes College
2017–2021 Music Scholarship, Rhodes College
2017–2021 Rhodes Grant, Rhodes College

SKILLS

Languages English (native); Spanish (Beginner)
Programming R (advanced); MATLAB (intermediate); Python (intermediate); STATA (intermediate); SAS (proficient); SQL (proficient)