

KYLE C. BURRIS

4176 Leona Dr ◇ Rocky River, OH
(316) · 258 · 9239 ◇ kyle.burris@duke.edu ◇ burrisk.github.io

EDUCATION

Ph.D. Statistical Science , <i>Duke University</i> Certificate in College Teaching	Expected 2019
M.S. Statistical Science , <i>Duke University</i>	2018
B.S. Mathematics, B.A. Economics , <i>Wheaton College (IL)</i> Summa Cum Laude Academic GPA: 3.97/4.0	2015

RESEARCH EXPERIENCE

Research Assistant <i>Department of Statistical Science, Duke University</i>	August 2017 - Present <i>Durham, NC</i>
<ul style="list-style-type: none">· Advisor: Peter Hoff· Project: Develop an efficient adaptive confidence interval procedure with guaranteed frequentist coverage for areal spatial data· Project: Develop methodology for multiple imputation of mixed data subject to expert-defined constraints	
Research Assistant <i>Department of Psychiatry and Behavioral Sciences, Duke University</i>	January 2017 - Present <i>Durham, NC</i>
<ul style="list-style-type: none">· Advisors: Jerry Reiter and Greg Appelbaum· Project: Explore the relationship between sensorimotor metrics and on-field performance in MLB baseball and develop a Bayesian hierarchical model to compare minor league players across leagues· Project: Explore the pattern of variation in sensorimotor differences by level of expertise, gender, and sport type in a large cohort of athletes	
Research Assistant <i>Triangle Census Research Network, Duke University</i>	June 2016 - May 2017 <i>Durham, NC</i>
<ul style="list-style-type: none">· Advisor: Jerry Reiter· Project: Extend constrained Bayesian edit-imputation methodology to incorporate flexibly specified measurement error models	

TEACHING EXPERIENCE

Instructor of Record <i>Duke University</i>	May 2017 - August 2017 <i>Durham, NC</i>
<ul style="list-style-type: none">· Taught two 25 student sections of STA 101 during Summer 2017 Terms I and II· Created unique lecture materials, application exercises, exams, and an applied data science project	
Statistics MOOC Developer <i>Duke University</i>	May 2016 - April 2017 <i>Durham, NC</i>
<ul style="list-style-type: none">· Collaborated with four statistics professors to develop the Statistics with R Specialization on Coursera· Provided support and learning objectives to the nearly 90,000 people enrolled in the MOOC	

Teaching Assistant*Duke University & Wheaton College*

August 2013 - Present

Durham, NC & Wheaton, IL

- Duke: STA 102 - Intro to Biostatistics, STA 112 - Data Science, STA 863 - Advanced Statistical Computing
- Wheaton: MATH 245 - Linear Algebra, MATH 263 - Statistics I, ECON 371 - Game Theory

Mathematics Bootcamp Instructor*Duke University*

August 2016, August 2017, August 2018

Durham, NC

- Taught and developed curriculum for a probability theory and linear algebra bootcamp, taken by incoming MS and PhD students

Data Plus Mentor*Duke University*

May 2017 - July 2017

Durham, NC

- Supervised a team of undergraduates on a research project in collaboration with professors from the EE department and medical school
- Project: Classify patient doppler ultrasound signals as healthy or unhealthy using a combination of feature extraction and machine learning algorithms

INDUSTRY EXPERIENCE

Research and Development Intern*Cleveland Indians Baseball Club*

May 2018 - August 2018

Cleveland, OH

- Developed novel time-series methodology for within-season evaluation of professional baseball players.
- Collaborated with player development, baseball operations, and scouting on an as-needed basis.

Product Development Intern*ICM, Inc.*

May 2013 - August 2013

Colwich, KS

- Specified an areal spatial data model to forecast corn stover yields in Midwestern counties
- Designed a financial model to help the company select an optimal plant location

TECHNICAL STRENGTHS

Limited Experience

MATLAB, SAS, Stata, Java

Working KnowledgePython, Tensorflow, C++, L^AT_EX, Git, JAGS/Stan, SQL**Advanced Knowledge**

R

PUBLICATIONS

Burris, K., Vittetoe, K., Ramger, B., Suresh, S., Tokdar, S., Reiter, J., Appelbaum, G. *Sensorimotor abilities predict on-field performance in professional baseball*. Nature Scientific Reports, 8(1), 2018.

Burris, K. and Coleman, J. (2018). *Out of gas: quantifying fatigue in MLB relievers*. Journal of Quantitative Analysis in Sports, 14(2), pp. 57-64.

Burris, K. and Hoff, P. *Exact adaptive confidence intervals for small areas*. Journal of Survey Statistics and Methodology (to appear), 2019.

Burris, K., Liu, S. and Appelbaum, G. *Visual-motor expertise in athletes*. Journal of Sports Sciences (under review), 2019

Burris, K. and Hoff, P. *Bayesian Hot Deck Multiple Imputation for Multivariate Numeric Data*. (in preparation), 2019.

Burris, K. *A Trajectory Planning Algorithm for Quantifying Space Ownership in Professional Football.* (in preparation), 2019.

PRESENTATIONS

NFL Scouting Combine (Indianapolis, IN) <i>Quantifying space ownership in professional football</i>	2019
MIT Sloan Sports Analytics Conference (Boston, MA) <i>Eye on the ball: the relationship between sensorimotor abilities and on-field performance in professional baseball</i>	2018
Duke Statistical Science Seminar (Durham, NC) <i>Exact adaptive confidence intervals for small area inference</i>	2018
New England Symposium for Sports in Statistics (Cambridge, MA) <i>Out of gas: quantifying reliever fatigue in MLB baseball</i>	2017
Duke Graduate School Preliminary Exam (Durham, NC) <i>Measurement error modeling specification in Bayesian data editing</i>	2017
Duke Statistical Science Seminar (Durham, NC) <i>Numerical integration of win probability curves: A stochastic matrix model for football rankings</i>	2016
Wheaton College Economics Spring Symposium (Wheaton, IL) <i>The effect of the NFL scouting combine on the professional labor market</i>	2014
Summer Institute of Biostatistics Poster Symposium (New York, NY) <i>Breast cancer classification using fine-needle aspiration testing</i>	2014

AWARDS/ACCOMPLISHMENTS

NFL Big Data Bowl Finalist, <i>NFL Scouting Combine</i>	2019
Research Papers Finalist, <i>MIT Sloan Sports Analytics Conference</i>	2018
First Place, Analytics Division, <i>TruMedia Baseball Hackathon</i>	2017
Statistical Science Fellowship, <i>Duke University</i>	2015
Angeline J. Brandt Award for Excellence in Mathematics, <i>Wheaton College</i>	2015
Wheaton College Scholastic Honor Society Inductee, <i>Wheaton College</i>	2015