

KYLE C. BURRIS

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EDUCATION

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

INDUSTRY EXPERIENCE

Cleveland Guardians Baseball Company	Cleveland, OH
<i>Assistant Director, Baseball Research and Development</i>	October 2021 - Present
<i>Senior Data Scientist, Baseball Research and Development</i>	October 2020 - October 2021
<i>Analyst, Baseball Research and Development</i>	May 2019 - October 2020
<i>Intern, Baseball Research and Development</i>	May 2018 - August 2018

- Developed novel methods in areas of time series analysis, anomaly detection, and quantile regression
- Introduced methods in the fields of machine learning and deep learning to the department
- Created statistical tools and models for scouting, player development, strategy, and personnel
- Cultivated side projects that brought significant value to both baseball and business analytics
- Assisted in building data products based on high-dimensional skeletal tracking data
- Collaborated on cross-functional teams consisting of software developers and baseball domain experts
- Worked with executive team to identify departmental objectives and subsequently communicate progress
- Served as a club liaison for prospective data vendors and provided input on purchasing decisions
- Coordinated departmental sourcing, application review, and interviews of prospective job candidates
- Mentored junior data scientists and led professional development opportunities within the organization

ICM, Inc.	Colwich, KS
<i>Product Development Intern</i>	May 2013 - August 2013

- 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

TEACHING EXPERIENCE

Instructor of Record	May 2017 - August 2017
<i>Duke University</i>	<i>Durham, NC</i>

- 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	May 2016 - April 2017
<i>Duke University</i>	<i>Durham, NC</i>

- 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 - December 2018

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

TECHNICAL STRENGTHS

Limited Experience

Spark, MATLAB, SAS, Stata, Java

Working KnowledgeSQL, Python, Tensorflow, C++, L^AT_EX, Git, Stan, GCP**Advanced Knowledge**

R

PUBLICATIONS

Burris, K. and Hoff, P. (2020). Exact adaptive confidence intervals for small areas. *Journal of Survey Statistics and Methodology*, 8(2), 206-230.

Liu, S., **Burris, K.**, Edmunds, F. and Appelbaum, G. (2020). *Visual and oculomotor abilities predict professional baseball batting performance*. *International Journal of Performance Analysis in Sport*, 20(4), 683-700.

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

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

PRESENTATIONS

NFL Scouting Combine (Indianapolis, IN)

2019

Quantifying space ownership in professional football

MIT Sloan Sports Analytics Conference (Boston, MA)

2018

Eye on the ball: the relationship between sensorimotor abilities and on-field performance in professional baseball

Duke Statistical Science Seminar (Durham, NC)

2018

Exact adaptive confidence intervals for small area inference

New England Symposium for Sports in Statistics (Cambridge, MA)

2017

Out of gas: quantifying reliever fatigue in MLB baseball

Duke Graduate School Preliminary Exam (Durham, NC)	2017
<i>Measurement error modeling specification in Bayesian data editing</i>	
Duke Statistical Science Seminar (Durham, NC)	2016
<i>Numerical integration of win probability curves: A stochastic matrix model for football rankings</i>	
Wheaton College Economics Spring Symposium (Wheaton, IL)	2014
<i>The effect of the NFL scouting combine on the professional labor market</i>	
Summer Institute of Biostatistics Poster Symposium (New York, NY)	2014
<i>Breast cancer classification using fine-needle aspiration testing</i>	

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