

# Cade Abrams, PhD

As an accomplished data scientist and researcher, I excel in cleaning, analyzing, and managing data sets to derive technical insights to advance research and inform decisions. My passion lies in solving complex problems by leveraging advanced analytical techniques, including predictive models. Trained as an interdisciplinary scientist and educator, I am skilled in effectively communicating complex results to technical and non-technical audiences.



## EXPERIENCE

- Aug 2022  
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Present
- **Postdoctoral Research Fellow – Data Scientist**  
University of South Carolina  
Columbia, South Carolina

- Conduct advanced statistical analyses using R, including regression modeling and hypothesis testing, to extract meaningful insights for academic manuscripts.
  - Apply innovative data processing techniques, enhancing sensitivity to developmental changes resulting in effect sizes 3 times larger than traditional techniques.
  - Collaborate with cross-functional and international teams to conduct statistical analyses, optimize data processing, and ensure the success of ongoing research projects.
  - Managed project workflows effectively on GitHub, streamlining research processes through version control and collaborative tools.
- Aug 2019  
|  
Aug 2022
- **Doctoral Graduate Assistant**  
University of South Carolina  
Columbia, South Carolina

- Collaboratively managed to a 4-year project through data collection, management, cleaning, and predictive modeling to advance motor skill and cognitive assessments resulting in 5 publications and 12 presentations.
  - Saved 42 manual hours across 8 data collections with custom R functions, designed to improve data processing efficiency and reduce data entry errors.
  - Developed custom data indices for ROTC yielding actionable insights to optimize training, resulting in a 16% increase in ACFT pass rates across 1.5 years (~135 Cadets in sample).



## SELECT PROJECTS

- 2023
- **3-D Model of Motor and Cognitive Solutions**  
<https://github.com/Tcabrams44/complexity-dual-task-conceptual>

Python code creates 3 visual diagrams, simplifying complex motor-cognitive relations for non-technical audiences.

- Interdisciplinary Research
  - Jupyter Notebook

- Data Visualization
  - Creativity
- May 2023
- **Beyond Traditional Approaches: Examining the Impact of SKIPping with PAX on Post-Error Slowing in Rural Preschoolers**  
[https://osf.io/jyzpx/?view\\_only=24a908b0a4c842b2843f43a4a37bfd73](https://osf.io/jyzpx/?view_only=24a908b0a4c842b2843f43a4a37bfd73)

Open Science Framework project for statistical analysis of cutting-edge data processing methods in an academic manuscript.

- Quantitative Analysis
  - Data Interpretation

- Data Visualization
  - Statistical Inference
- May 2021
- **Custom R Script for Processing and Scoring Army Combat Fitness Test Results**  
<https://github.com/Tcabrams44/ACFT-Custom-Script>

R functions score raw ACFT event data, including times, accurately and efficiently.

- Anonymous Functions
  - Automation

- Data Wrangling
  - Data Processing

## CONTACT INFO

+1(234)-567-8910  
[cade4420@gmail.com](mailto:cade4420@gmail.com)  
[github.com/Tcabrams44](https://github.com/Tcabrams44)  
[in.cade-abrams-phd](https://in.cade-abrams-phd)

For more information, please contact me via email.

## SKILLS

R  
Python  
Markdown  
Statistical Analysis  
Data Cleaning  
Data Wrangling  
Version Control  
Experimental Design  
Microsoft Excel

## Commonly Used Libraries

R  
broom · conflicted · dplyr · ggplot2 · Hmisc · lubridate · magrittr · purr · readr · stringr · tibble

Python  
glob · ipywidgets · Matplotlib · NumPy · os · pandas · PsychoPy · random · shutil

## EDUCATION

### BS in Exercise Science

Lander University  
Aug 2017

### MAT in Physical Education

University of South Carolina  
Aug 2019

### PhD emphasis in Motor Behavior

University of South Carolina  
Dec 2022  
Subspecialties in: **Statistics** and **Cognitive Neuroscience**