

BRENDAN CULLEN

I am a PhD student and [National Science Foundation Graduate Research Fellow](#) in the Department of Psychology at the University of Oregon. As an aspiring data scientist, my long-term goal is to contribute to open-source software and to apply my computational skills as a researcher within an industry setting focused on enhancing health across the lifespan.

EDUCATION

- 2022 | 2017** **PhD Student, Psychology**
University of Oregon Eugene, OR
 - My research takes a translational (neuro)science approach toward predictive modeling of self-regulation processes and health-risking behaviors within a precision medicine framework.
 - I am currently pursuing a 5-course [Data Science Specialization](#) taught entirely in R, focused on data visualization, functional programming, and machine learning.
- 2019 | 2017** **MS, Psychology**
University of Oregon Eugene, OR
 - Thesis: Comparing cognitive and affective predictors of craving
- 2015 | 2011** **BA, Neuroscience**
Middlebury College Middlebury, VT
 - Thesis: Neurophysiological correlates of self-referential activity in meditators and non-meditators

SELECTED POSITIONS

- 2020** **Lab Instructor**
[PSY 612: Data Analysis II](#) University of Oregon
 - Designed and taught lab sections on [Correlations](#), [Univariate Regression and the General Linear Model](#), [Regression with Categorical Predictors](#), [Interactions](#), and [Factorial ANOVA](#).
- 2019** **Lab Instructor**
[PSY 611: Data Analysis I](#) University of Oregon
 - Designed and taught lab sections on [R Basics and Descriptive Statistics](#), [Matrix Algebra](#), [Data Transformation with dplyr](#), [Pre-registration](#), and [Paired samples t-tests](#).
- 2018 | 2017** **Graduate Employee**
Social and Affective Neuroscience Lab University of Oregon
 - Selected self-report measures and co-designed interventions for NCI-funded RCT comparing behavioral response and cognitive reappraisal interventions for devaluing unhealthy food
 - Created automated workflow for daily backup of fMRI data via a high performance computing cluster
- 2017 | 2015** **Research Assistant**
Clinical and Affective Neuroscience Lab Brown University
 - Cleaned and scored self-report data (20+ measures) from an NIH-funded 3-armed RCT comparing focused awareness meditation, open-monitoring meditation, and Mindfulness-Based Cognitive Therapy on clinical efficacy for depression
 - Led a project investigating the effects of meditation training on EEG and behavioral measures of self-referential processing

CONTACT

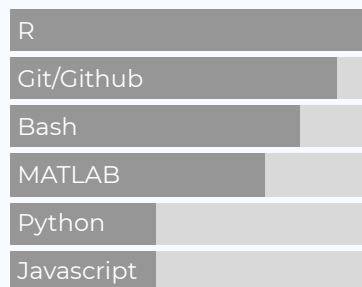
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MORE INFO

See full CV at bcullen.rbind.io/cv for more complete list of positions and publications.

PROGRAMMING

SKILLS



I believe that learning open-source data science tools can empower us to be better scientists. I have relished the opportunity to create educational resources about working with data in R for my fellow graduate students.

Skills gained from research positions:

- Data analysis with R
- Functional programming
- Shell scripting
- Git/Github
- HPC
- Python
- Project management
- Research design
- Neuroimaging analysis
- Experimental software development (MATLAB)

2017
|
2015

Research Assistant

Embodied Neuroscience Lab

📍 Brown University

- Collected EEG data for pilot RCT testing a neuromuscular-immune model of chronic fatigue in female cancer survivors
- Designed custom software in MATLAB to implement novel EEG/EMG paradigm for measuring neural correlates of tactile acuity and precision grip strength



SELECTED PUBLICATIONS

2018

[Dismantling Mindfulness-Based Cognitive Therapy: Creation and validation of 8-week Focused Attention and Open Monitoring interventions within a 3-armed randomized controlled trial](#)

Behaviour and Research Therapy, 101, 92-107.

- Britton, W.B., Davis, J., Loucks, E.B., Peterson, B., **Cullen, B.**, Reuter, L., Rando, A., Rahrig, H., Lipsky, J. & Lindahl, J. (2018).

2018

[Comparing embodiment experiences in expert meditators and non-meditators](#)

Consciousness and Cognition, 65, 325-333.

- Xu, A., **Cullen, B.**, Penner, C., Zimmerman, C., Kerr, C.E., & Schmalzl, L. (2018)

2018

[Dose-dependent effects of testosterone on spatial memory in adult male rats](#)

Psychoneuroendocrinology, 89, 120-130.

- Wagner, B., Braddick, V. Batson, C., **Cullen, B.**, Miller, E. & Spritzer, M. (2018).

My peer-reviewed scientific publications are varied in topic, ranging from the neuroendocrinology of spatial memory to decomposing neurocognitive mechanisms of mindfulness practices with respect to clinical depression outcomes. In general, I am interested in studying how the plasticity of the brain can be leveraged to better understand and guide adaptive changes in behavior.



WORKSHOPS TAUGHT

2020

[Introduction to Git and Github](#)

Psychology First Year Research Seminar

📍 University of Oregon

- Introductory workshop for first-year psychology PhD and Master's students on basics of using Git and Github for version control

2019

[Intermediate Git and Github](#)

UO Data Science Club

📍 University of Oregon

- Intermediate Git/Github workshop for University of Oregon's Data Science Club, including discussion of merge conflicts, branching, pull requests, and best practices for collaborative Github projects

I have extensive experience with git and Github and have taught several workshops on using Github for version control and collaborative projects. You can view a record of my Github pull requests [here](#).



ADDITIONAL TRAINING

2020

[Introduction to Machine Learning with the Tidyverse](#)

rstudio::conf(2020)

📍 San Francisco, CA

- Two-day workshop on machine learning with tidymodels taught by Alison Hill

Topics covered included prediction, classification, sampling & resampling, ensemble, workflows, recipes, cross-validation and model tuning.



SELECTED SERVICE

2020

[Co-organizer](#)

[Cascadia R Conf 2020](#)

📍 Eugene, OR

- Updated website for 2020 conference, designed new hex sticker, secured additional sponsors

2018

[Co-organizer](#)

[Eugene Brainhack](#)

📍 Eugene, OR

- Co-organized a two-day Brainhack event hosted at the University of Oregon that involved collaborative software development projects related to computational neuroscience and psychology

I am passionate about contributing to open-source communities that are friendly, inclusive, and supportive. During my time in graduate school, I have had the privilege of helping to organize several workshops and conferences focused on sharing open-source data science tools within such communities.