

# Garrick Aden-Buie Data Scientist

Motivated, life-long learner. Always looking for questions and answers in the data. Passionate about collaboration, communicating insights, and sharing knowledge. Known as a highly organized, perceptive, and resourceful team player.

## ABOUT

[garrickadenbuie.com](http://garrickadenbuie.com)  
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(727) 344-9568  
St. Petersburg, Florida (US)  
**GitHub:** [gadenbuie](#)  
**Twitter:** [grrrck](#)

## LANGUAGES

**English** (Native)  
**Spanish** (Superior ACTFL/ETS)

## SKILLS

### ADVANCED

R  
Shiny  
Git  
RMarkdown  
R Package Development  
SQL (MySQL, SQLite, etc.)  
Bash  
MS Office (Excel, etc.)

### INTERMEDIATE

Python  
HTML  
CSS  
PHP  
MQTT

### FAMILIAR

JavaScript  
Julia  
Go

### OPERATING SYSTEMS

Linux (Debian, Ubuntu, Other)  
macOS  
Amazon AWS  
Docker  
Windows

## EDUCATION

University of South Florida 2012 — 2018  
*Ph.D. (expected 2018), MSIE (2014), Industrial and Management Systems Engineering*

**Courses:** Deep Learning, Statistical Design Models, Large-Scale Optimization, Advanced Analytics, Bayesian Data Analysis

Universidad Autónoma de Madrid and Syracuse University in Madrid 2005 — 2006  
*Study Abroad, Spanish*

Lehigh University 2002 — 2007  
*B.S. Applied Math, B.A. Spanish, Physics (minor)*

## PROFESSIONAL EXPERIENCE

Project Coordinator and Research Associate Jan 2018  
University of South Florida Sep 2014  
[usf.edu/engineering/create-health/](http://usf.edu/engineering/create-health/)

Led diverse team of Ph.D., masters and undergraduate students in development and evaluation of large smart home project for monitoring the daily activities of community-dwelling, independent older adults.

- Managed 3 Ph.D., 5 Masters, and 4 undergraduate REU students
- Lead software developer for remote sensor data collection, processing, storage, administration, and visualization
- Developed several R packages and Shiny dashboards and interactive front-ends for inventory management and data processing
- Provisioned and administered servers hosting MySQL and various microservices; remote data collection systems running on Raspberry Pis
- Designed and implemented notification microservice for near-real-time evaluation and alerting for emergent conditions

R Package Developer: MCTestAnalysis Mar 2017  
University of South Florida Jul 2016  
[gadenbuie.github.io/mctestanalysis/](https://gadenbuie.github.io/mctestanalysis/)

Developed an R package for Multiple-Choice Test Analysis for educators who are not comfortable programming. The package includes a web interface for interactive exploration of test results, or a generated report based on best practices for the design and evaluation of multiple-choice tests.

Research Assistant Sep 2014  
University of South Florida Sep 2013

Various tasks and responsibilities in support of engineering education at USF.

Research Assistant Sep 2013  
Patel College of Global Sustainability, USF Jun 2012  
[usf.edu/pcgs/](http://usf.edu/pcgs/)

- Research and design of an urban metabolism model for the USF Tampa Campus.
- Supervised research of two undergraduate students (Spring 2013).
- Assistant to the Director of the Office of Sustainability, USF. Coordinated, analyzed and prepared reports on campus sustainability-related initiatives.
- Assist with research objectives of PCGS and in the preparation of reports, lectures and talks by PCGS staff and faculty.

## VOLUNTEER EXPERIENCE

### President, INFORMS Student Chapter at USF

2014 — 2015

*Served as President of the USF student chapter of INFORMS, the leading international association for Operations Research and Analytics professionals.*

- Started a student-led monthly journal club to share and disseminate cutting-edge publications in statistics, machine learning, and operations research.
- Initiated a travel grant supported by internal fundraising to partially finance the attendance of chapter members at the INFORMS Annual Meeting.
- Organized and led a college-wide code and data bootcamp for undergraduate and graduate students, featuring hands-on learning of data science and programming principles.
- Led planning team for INFORMS@USF Code & Data Bootcamp, built comprehensive webpage, organized sessions and source code, and presented multiple sessions on programming and data science with R.

### Peace Corps

2008 — 2009

*Youth Development Specialist*

*Served in the Peace Corps in Gualaceo, Ecuador, working in conjunction with local organizations to provide leadership training to children and youth among a number of other highlights listed below.*

- Created and implemented life-skills training program, educating 70 at-risk middle school students.
- Led Peace Corps Ecuador's Anti-Trafficking In Persons committee and raised \$1,500 for a shelter for trafficked women in a contest-based fundraising initiative.
- Individually tutored seven middle- and high-school students and two college math students in math topics such as Trigonometry, Fractions, Algebra and Calculus.
- Designed interactive graphics and edited a six-month, biweekly column published in the leading provincial newspaper, appealing to both children and parents, highlight topics including hygiene, public health and children's rights.
- Organized and delivered an educational course for parents on drug and alcohol prevention in high-risk community.

## PUBLICATIONS

### Comparison of Final Examination Formats in a Numerical Methods Course

2015

International Journal of Engineering Education

*Garrick Aden-Buie, A. Kaw, Ph.D., A. Yalcin, Ph.D.*

### Rough Set Theory Based Prognostic Classification Models for Hospice Referral

2015

BMC Medical Informatics and Decision Making

*E. Gil-Herrera and Garrick Aden-Buie, A. Yalcin, Ph.D., A. Tsalatsanis, Ph.D., L.E. Barnes, Ph.D., B. Djulbegovic, Ph.D.*

### Introduction to Engineering Design: Piloting design projects for the first year engineering experience

2014

Sixth Annual First Year Engineering Experience Conference

*J. Gaines, Ph.D., B. Joseph, Ph.D., Garrick Aden-Buie*

### Are multiple-choice questions suitable for a final examination in a STEM course?

2014

American Society for Engineering Education

*Garrick Aden-Buie, A. Kaw, Ph.D., A. Yalcin, Ph.D., R. Pendyala, Ph.D.*

## PRESENTATIONS

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A Gentle Guide to the Grammar of Graphics with ggplot2 Tampa R Users Meetup <a href="https://gadenbuie.github.io/trug-ggplot2">gadenbuie.github.io/trug-ggplot2</a> <i>An introduction to data visualization with the R package ggplot2</i>	2018-01-23
Occupant Activity Profiles from Smart Home Sensor Event Streams INFORMS Annual Meeting <a href="https://garrickadenbuie.com/talk/informs-2017/">garrickadenbuie.com/talk/informs-2017/</a> <i>Garrick Aden-Buie, A. Yalcin, Ph.D., C. VandeWeerd, Ph.D.</i>	2017-10-25
Getting StaRted in R INFORMS@USF Code & Data Boot Camp <a href="https://github.com/gadenbuie/usf-boot-camp-R">github.com/gadenbuie/usf-boot-camp-R</a>	2016-03-25
Ambient Intelligence Applications in Healthcare ISERC at IIE Annual Conference & Expo <a href="https://garrickadenbuie.com/talk/iie-iserc-2015/">garrickadenbuie.com/talk/iie-iserc-2015/</a> <i>Garrick Aden-Buie, A. Yalcin, Ph.D., C. VandeWeerd, Ph.D., N. Agu, J. Hammett, E. Yetisener, C. Radwan</i>	2015-02-06
Reporting Reproducible Research with R and Markdown INFORMS@USF Code & Data Boot Camp <a href="https://github.com/gadenbuie/usf-boot-camp-R">github.com/gadenbuie/usf-boot-camp-R</a>	2014-04-11
Boosted Tree Ensembles for Predicting Postsurgical ICU Mortality INFORMS Annual Meeting <a href="https://garrickadenbuie.com/talk/informs-2013/">garrickadenbuie.com/talk/informs-2013/</a> <i>Garrick Aden-Buie, Y. Chen, G. Romero, R. Kayal, H. Yang Ph.D.</i>	2013-10-07

## PROJECTS

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### Open Source Contributions

I enjoy contributing to open source software projects and have made modest contributions to the following packages: `pandoc` (LaTeX), `knitr` (R), `xaringan` (R), `magick` (R), `tibbletime` (R), `blogdown` (R). I also have released the following packages on GitHub:

- `regexplain`: [github.com/gadenbuie/regexplain](https://github.com/gadenbuie/regexplain)
- `ggpomological`: [github.com/gadenbuie/ggpomological](https://github.com/gadenbuie/ggpomological)
- `MCTestAnalysis`: [github.com/gadenbuie/MCTestAnalysis](https://github.com/gadenbuie/MCTestAnalysis)