Garrick Aden-Buie Data Scientist

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

ABOUT

garrickadenbuie.com
garrick@adenbuie.com
(727) 344-9568
St. Petersburg, Florida (US)
GitHub: gadenbuie
Twitter: grrrck

LANGUAGES

English (Native)
Spanish (Superior ACTFL/ETS)

SKILLS

ADVANCED
R
Shiny
RMarkdown
JavaScript
HTML
CSS
Git
R Package Development
Database Management
SQL (MySQL, SQLite, Postgres)
Commandline Scripting (Bash)
MS Office (Excel, etc.)

INTERMEDIATE
Python
PHP
MQTT

FAMILIAR
Julia
Go

OPERATING SYSTEMS
Linux (Debian, Ubuntu, Other)
macOS
Amazon AWS
Google Cloud
Docker
Windows

INTERESTS

Data Visualization
Acoustic Instruments
Music
Soccer
Books
Blogging

EDUCATION

University of South Florida
2014 — 2018
Ph.D. Candidate (exited ABD), Industrial and Management Systems Engineering
Courses: Deep Learning, Statistical Design Models, Large-Scale Optimization, Advanced Analytics, Bayesian Data Analysis

University of South Florida
2012 — 2018
MSIE (2014), Ph.D. Candidate (exited ABD), Industrial & Mgmt. Systems Engineering

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)

CERTIFICATIONS

RStudio Certified Tidyverse Instructor
Sep 2019 — Present

PROFESSIONAL EXPERIENCE

Scientific Programmer
Present
Aug 2019
Collaborative Data Services, Moffitt Cancer Center

Worked closely with CDS analysts and Moffitt investigators as a software engineer to design and implement new tools to automate data ingestion, cleaning, normalization and reporting. Provided training and support to CDS analysts in data science best practices while architecting and implementing new workflows.

- Designed and led trainings in R programming, data analysis, and version control for multiple teams at Moffitt
- Developed several R packages to streamline project management, reporting, and access to various databases

Workshop: JavaScript for Shiny Users
Jan 2020
Jan 2020
rstudio::conf(2020)

Led two-day, hands-on and project-driven workshop for 90 Shiny users on JavaScript and web development. Developed the js4shiny R package to support the workshop and provide additional resources and tools based on R Markdown and Shiny for JavaScript development in R and RStudio, including an R Markdown format for literate JavaScript programming and a Shiny app code editor and live preview for HTML, CSS and JS.

Research Data Analyst II (Bioinformatics)
Aug 2019
May 2018
Gerke Lab, Cancer Epidemiology, Moffitt Cancer Center

Conducted advanced bioinformatic and statistical analyses in support of cancer epidemiology research. Developed several R packages and worked with diverse data systems architects to coordinate development efforts throughout the data lifecycle. Applied novel analytic approaches and software pipelines to multiplex immunohistochemistry data.

- Designed and developed a Shiny dashboard interface with companion R package for analysis of the FCDS Florida Cancer Registry data
- Created and led an in-depth course on data processing with R for data analysts in Moffitt's Collaborative Data Services Core
- Awarded internal $50,000 grant as Co-PI with Dr. Gerke to develop DV3, a framework for data virtualization, visualization and versioning

Project Coordinator and Research Associate
Jan 2018
Sep 2014
University of South Florida
usf.edu/engineering/create-health/

Led diverse team of Ph.D., masters and undergradute 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 adminsistered database and backend servers supporting 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
Jul 2016

University of South Florida

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
Sep 2013

University of South Florida

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

Research Assistant
Sep 2013
Jun 2012

Patel College of Global Sustainability, USF

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.

AWARDS

Runner Up, Shiny App Contest
Apr 2019

RStudio

Selected as one of 10 developers from 136 submissions in recognition of a web app and dashboard built using Shiny. The dashboard monitors social media conversations around a conference or event, and received hundreds of simultaneous visitors per day during RStudio's annual conference in January 2019.

PROJECTS

Scientific Software

- moffittCDS - An internal R package for the Collaborative Data Services Core at Moffitt for managing projects, creating reports, and connecting to various databases
- fcds — gerkelab.github.io/fcds
  An R package and Shiny web application for the analysis of Florida Cancer Regististry data from the Florida Cancer Data System
- ShinyDAG — gerkelab.com/project/shinydag
  A web application for building, analyzing, and visualizing directed acyclic graphs (DAGs)
- epiTAD — gerkelab.com/project/epiTAD
  A web application for visualizing chromosome conformation capture data in the context of genetic epidemiology

Open Source Software

I enjoy contributing to open source software projects and whenever possible I contribute to the R packages that I use. I also have released the following software packages for R on GitHub:

- regexplain: garrickadenbuie.com/project/regexplain/
- xaringanthemer: pkg.garrickadenbuie.com/xaringanthemer
- js4shiny: pkg.js4shiny.com/
- ggpomological: garrickadenbuie.com/project/ggpomological
- countdown: pkg.garrickadenbuie.com/countdown
- tidyexplain: garrickadenbuie.com/project/tidyexplain/
- rsthemes: github.com/gadenbuie/rsthemes
- metathis: pkg.garrickadenbuie.com/metathis/
- ggweekly: github.com/gadenbuie/ggweekly
- cleanrmd: pkg.garrickadenbuie.com/cleanrmd
- tweetrmd: github.com/gadenbuie/tweetrmd
- MCTestAnalysis: garrickadenbuie.com/project/mc-test-analysis/

PUBLICATIONS

shinyDAG: A web application for building, analyzing, and visualizing directed acyclic graphs (DAGs)
Epidemiology (In Review)
Creed J, Aden-Buie G, Gerke TA

2020

epiTAD: a web application for visualizing chromosome conformation capture data in the context of genetic epidemiology
Bioinformatics
Creed J, Aden-Buie G, Monteiro A, Gerke TA

2019

Effects of tobacco smoking on the tumor immune microenvironment in head and neck squamous cell carcinoma
Clinical Cancer Research
Janis, V, Slebos, RJ, Martin-Gomez, L, Wang, X, Teer, JK, Tan, AC, Gerke, TA, Aden-Buie, G, Van Veen, T, Masannat, J and Chaudhary, R

2019

Prostate-specific antigen (PSA) levels in men 60 to 70 years of age predict aggressive prostate cancer in the PLCO cancer screening trial: Implications for risk-stratified screening
European Association of Urology Congress: Mar 15–19; Barcelona, Spain.
Berger A, Aden-Buie G, Kibel AS, Mucci LA, Penney K, Wilson K, Gerke TA, Preston M

2019

Identifying genetic interactions that drive aggressive prostate cancer using an ensemble of penalized Cox regression models
AACR Convergence: Artificial Intelligence, Big Data, and Prediction in Cancer: Oct 14-17; Newport, RI
Laajala TD, Aden-Buie G, Gerke T, Creed J, Berglund A, Stopsack K, Cramer SD, Tyekucheva S, Aittokallio T, Costello JC

2018

Accessible pipeline for translational research using TCGA: Tristetraprolin as an example relating gene mechanism to a disease specific outcomes
TCGA Legacy: Multi-Omic Studies in Cancer, Sep 27-29; Washington, DC
Berglund A, Putney R, Creed J, Aden-Buie G, Gerke T, Rounbehler R

2018

Comparison of Final Examination Formats in a Numerical Methods Course
International Journal of Engineering Education
Aden-Buie G, Kaw A, Yalcin A

2015

Rough Set Theory Based Prognostic Classification Models for Hospice Referral
BMC Medical Informatics and Decision Making
Gil-Herrera E and Aden-Buie G, Yalcin A, Tsalatsanis A, Barnes LE, Djulbegovic B

2015

Introduction to Engineering Design: Piloting design projects for the first year engineering experience
Sixth Annual First Year Engineering Experience Conference
Gaines J, Joseph B, Aden-Buie G

2014

Are multiple-choice questions suitable for a final examination in a STEM course?
American Society for Engineering Education
Aden-Buie G, Kaw A, Yalcin A, Pendyala R

2014

Reproducible Data Workflows with Drake	2019-07-19

Bio-Data Club at Moffitt Cancer Center
gadenbuie.github.io/drake-intro/

A Gentle Guide to the Grammar of Graphics with ggplot2   2018-11-06
Workshop on Data Analysis Using R (ASA at USF)
garrickadenbuie.com/talk/gentle-ggplot2

The Passive Smart Home: Unobtrusive At-Home Behavior Monitoring   2018-10-29
Utilizing Technology for Data Collection and Intervention, Moffitt Cancer Center
garrickadenbuie.com/slides/moffitt-passive-smart-home/
Aden-Buie G

Unsupervised behavior change detection using passive sensor systems in the homes of older adults   2018-05-07
11th World Conference of Gerontechnology
garrickadenbuie.com/talk/isg-2018/
Aden-Buie G, Yalcin A, VandeWeerd C

A Gentle Guide to the Grammar of Graphics with ggplot2   2018-01-23
Tampa R Users Meetup
gadenbuie.github.io/trug-ggplot2
An introduction to data visualization with the R package ggplot2

Occupant Activity Profiles from Smart Home Sensor Event Streams   2017-10-25
INFORMS Annual Meeting
garrickadenbuie.com/talk/informs-2017/
Aden-Buie G, Yalcin A, VandeWeerd C

Getting StaRted in R   2016-03-25
INFORMS@USF Code & Data Boot Camp
github.com/gadenbuie/usf-boot-camp-R

Ambient Intelligence Applications in Healthcare   2015-02-06
ISERC at IIE Annual Conference & Expo
garrickadenbuie.com/talk/iie-iserc-2015/
Aden-Buie G, Yalcin A, VandeWeerd C, Agu N, Hammett J, Yetisener E, Radwan C

Reporting Reproducible Research with R and Markdown   2014-04-11
INFORMS@USF Code & Data Boot Camp
github.com/gadenbuie/usf-boot-camp-R

Boosted Tree Ensembles for Predicting Postsurgical ICU Mortality   2013-10-07
INFORMS Annual Meeting
garrickadenbuie.com/talk/informs-2013/
Aden-Buie G, Chen Y, Romero G, Kayal R, Yang H

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

Youth Development Specialist

Served in the Peace Corps in Gualaceo, Ecuador, working in conjuction 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 created a collaborative, contest-based fundraiser for a shelter for trafficked women in Guayaquil, Ecuador.
- Individually tutored seven middle- and high-school students and two college math students in math topics such as Trigonometry, Algebra and Calculus.
- Designed interactive graphics and edited a six-month, biweekly column published in the leading local 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 abuse prevention in high-risk community.