

s gwynn sturdevant

Experience

Data Scientist

- 2018–2020 **Data Scientist**, *Volanno*, Washington, DC.
- Utilized machine learning techniques including tuning variables, ridge, lasso, and caret packages to improve terminal arrival efficiency rate estimation in aviation;
 - Tidyverse coding to predict train arrivals in multi-agency rail operations;
 - Produced iterative algorithm for determining duration of drone flights in base R;
 - Extracted data from databases to R.
- 2016–2018 **Post-Doc in Biostatistics**, *The University of Massachusetts, Amherst*, Amherst, MA.
- Initiated analytic R Shiny application that allowed researchers to randomize with confidence;
 - Aggregated data to randomize trials using base R.
- 2011–2016 **PhD in Statistics**, *The University of Auckland*, New Zealand.
- Analyzed over 100,000 blood pressure measurements to determine covariance structure in base R;
 - Simulated and structured over 10,000 trials using R then analyzed resultant data to identify tests for long term effects after cessation of treatments;
 - Optimized base R coding using vectorization methods to reduce run time for computing the derivative of a discrete survival analysis algorithm.

Teaching

- 2004–2015 **Teacher**, Local High Schools, Auckland, New Zealand.
- Taught varying levels of math and introductory Spanish;
 - Performed skills assessments, provided advice and counseling.
- 2011–2014 **Statistics Tutor and Grader**, *The University of Auckland*, Auckland, NZ.
- 2000–2001 **Graduate Teaching Assistant**, *Northern Arizona University*, Flagstaff, AZ.
- 1998–1998 **Teaching Assistant**, *St. Mary's College of MD*, St. Mary's City, MD.

Financial

- 1999–2000 **Student Actuary**, *Milliman USA*, Vienna, VA.

Research

- title *Matching in Cluster Randomized Trials Using the Goldilocks Approach*
- supervisor Ken Kleinman
- description Initiated development and built shiny application for balancing baseline covariates prior to randomization in trials with a small number of units. Developed my own plots using base R.
- title *Statistical Modeling of Carryover Effects After Cessation of Treatment*

supervisor Thomas Lumley
description Testing for carryover effects when a noisy measurement crosses a threshold has flumoxed researchers. We demonstrated that trial design is infeasible and developed an analysis approach based on parametric bootstrap and mixed effect models. Survival analysis did not work at the sample sizes considered.

Education

2002–2003 **Diploma in Teaching (Secondary)**, *The University of Auckland*, New Zealand.
2000–2002 **MS in Mathematics**, *Northern Arizona University*, Flagstaff, AZ, Actuarial Science.
1995–1999 **BA in Mathematics**, *St. Mary's College of Maryland*, St. Mary's City, MD, *Cum Laude*.
1998 **Certificado Avanzado de la Lengua Española**, *Universidad de Salamanca*, Salamanca, España.

Languages

English **Fluent**
Spanish **Fluent**

Computer skills

Statistical R, ADMB, SAS, Python, Stan
Environments Unix, Mac, Windows
Other \LaTeX

Leadership

- useR! 2020 workshop support and moderator
- Panelist and moderator satRdaysDC 2020
- Organizer of RLadies DC (2018 - current)
- Occasional chair and member, R Consortium RCDI-WG (2019 - current)
- Organizer of R Unconf, Washington, DC 2020
- Ambassador for Women in Analytics 2020
- useR 2020 Diversity Committee
- Chair of Postgraduate Staff/Student Consultative Committee (2013)
- PhD Statistics Department Representative (2013)
- Captain of the Stats Mean Team (2013)

References

Academic

- Professor Thomas Lumley
Department of Statistics
University of Auckland
t.lumley@auckland.ac.nz
- Associate Professor Ken Kleinman
Department of Biostatistics and Epidemiology
University of Massachusetts, Amherst
ken.kleinman@gmail.com
- Professor Susan Huang
Infectious Disease
University of California, Irvine
sshuang@uci.edu

Presentations

- July 2020 — Lightning Presentation — useR! 2020
- July 2019 — Panel Discussion — Women in Artificial Intelligence
- January 2019 — Oral Presentation — RLadies LA
- November 2018 — Oral Presentation — Statistical Programming DC
- September 2018 — Oral Presentation — RLadies Baltimore
- December 2013 — Oral Presentation — Australasian Region of the International Biometric Society
- October 2013 — Oral Presentation — Australasian Epidemiological Association
- December 2011 — Oral Presentation — The University of Auckland
- July 2019 — Invited Keynote — Erasmus Data Analytics Summit
- May 2019 — Oral Presentation — Data Visualization DC
- December 2018 — Oral Presentation — SatRdays DC
- October 2018 — Oral Presentation — RLadies DC
- July 2018 — Poster Presentation — International Biometric Conference
- November 2013 — Oral Presentation — New Zealand Statistical Association
- September 2012 — Oral Presentation — The University of Auckland
- May 2011 — Poster — The University of Auckland

Workshops

- Jan 2020 — Teaching Assistant — Dr. Alison Hill — RStudio Conf: Introduction to Machine Learning in the tidyverse
- February 2019 — Teaching Assistant — Dr. Max Kuhn — Fannie Mae - Applied Machine Learning Workshop
- May 2019 — Teaching Assistant — Dr. Garret Grolumend — ASA - COC Traveling Course: Welcome to the Tidyverse: An Introduction to R for Data Science

Hackathons

- May 2019 — Participant — NIH Women-Led Hackathon

Publications

S Gwynn Sturdevant, Susan Huang, Richard Platt, and Ken Kleinman. Matching in cluster randomized trials using the goldilocks approach. *Contemporary Clinical Trials Communications*, 2020 Under review.

S. Gwynn Sturdevant and Thomas Lumley. Testing for carryover effects after cessation of treatments: a design approach. *BMC Medical Research Methodology*, 16(1):1–8, 2016.

S Gwynn Sturdevant and Thomas Lumley. Modeling of carryover effects after cessation of treatments: A linear mixed model approach. *Contemporary Clinical Trials Communications*, 2020 Under review.

Awards and scholarships

- useR! 2020, Diversity scholarship
- BA Cum Laude
- St. Mary's Senior Scholar
- Dean's List