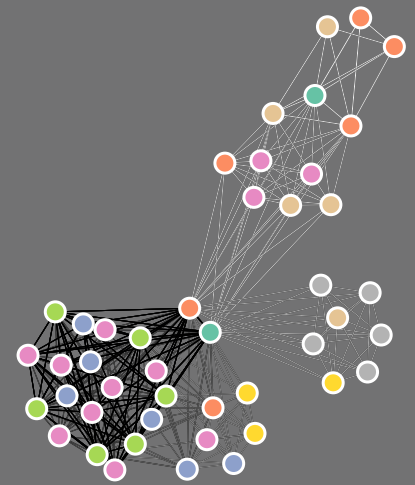


NICK STRAYER

I have made visualizations viewed by hundreds of thousands of people¹, sped up query times for 25 terabytes of data by an average of 4,800 times², and built packages for R³ that let you do magic⁴.

Currently searching for a position that allows me to build tools leveraging a combination of visualization, machine learning, and software engineering to help people explore and understand their data in new and useful ways.



EDUCATION

Current
|
2015

PhD. Candidate, Biostatistics

Vanderbilt University

📍 Nashville, TN

- Working on Bayesian network models & interactive visualization platforms
- University Graduate Fellow

2015
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2011

B.S., Mathematics, Statistics (minor C.S.)

University of Vermont

📍 Burlington, VT

- Thesis: An agent based model of Diel Vertical Migration patterns of *Mysis diluviana*



RESEARCH EXPERIENCE

Current
|
2015

Graduate Research Assistant

TBILab (Yaomin Xu's Lab)

📍 Vanderbilt University

- Primarily working with large EHR and Biobank datasets.
- Developing network-based methods to investigate and visualize clinically relevant patterns in data.

2015
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2017

Data Science Researcher

Data Science Lab

📍 Johns Hopkins University

- Building R Shiny applications in the contexts of wearables and statistics education.
- Work primarily done in R Shiny and Javascript (node and d3.js).

2015
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2013

Undergraduate Researcher

Rubenstein Ecosystems Science Laboratory

📍 University of Vermont

- Analyzed and visualized data for CATOS fish tracking project.
- Head of data mining project to establish temporal trends in population densities of *Mysis diluviana* (*Mysis*).
- Ran project to mathematically model the migration patterns of *Mysis* (honors thesis project).

View this CV online with links at nickstrayer.me/cv/

CONTACT

✉ nick.strayer@gmail.com

🐦 [NicholasStrayer](https://twitter.com/NicholasStrayer)

🐙 github.com/nstrayer

🌐 nickstrayer.me

🌐 [linkedin.com/in/nickstrayer](https://www.linkedin.com/in/nickstrayer)

LANGUAGE SKILLS

R	
Javascript (d3.js)	
C++	
Python	
Bash	
SQL	
AWK	

Wrote this CV using <https://github.com/jgm/pagedown>

View this CV online with links at github.com/nstrayer/cv

Last updated on 2020-01-17

2015
|
2015

Human Computer Interaction Researcher

LabInTheWild (Reineke Lab)

📍 University of Michigan

- Led development and implementation of interactive data visualizations to help users compare themselves to other demographics.

2014
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2013

Undergraduate Researcher

Bentil Laboratory

📍 University of Vermont

- Developed mathematical model to predict the transport of sulfur through the environment with applications in waste cleanup.

2013
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2012

Research Assistant

Adair Laboratory

📍 University of Vermont

- Independently analyzed and constructed statistical models for large data sets pertaining to carbon decomposition rates.



INDUSTRY EXPERIENCE

2016
|
2016

Data Journalist - Graphics Department

New York Times

📍 New York, New York

- Reporter with the graphics desk covering topics in science, politics, and sport.
- Work primarily done in R, Javascript, and Adobe Illustrator.

2015
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2015

Engineering Intern - User Experience

Dealer.com

📍 Burlington, VT

- Built internal tool to help analyze and visualize user interaction with back-end products.

2015
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2015

Data Science Intern

Dealer.com

📍 Burlington, VT

- Worked with the product analytics team to help parse and visualize large stores of data to drive business decisions.

2015
|
2014

Data Artist In Residence

Conduce

📍 Carpinteria, CA

- Envisioned, prototyped and implemented visualization framework in the course of one month.
- Constructed training protocol for bringing third parties up to speed with new protocol.

2014
|
2014

Software Engineering Intern

Conduce

📍 Carpinteria, CA

- Incorporated d3.js to the company's main software platform.

I have worked in a variety of roles ranging from journalist to software engineer to data scientist. I like collaborative environments where I can learn from my peers.



TEACHING EXPERIENCE

2020

Javascript for Shiny Users

RStudio::conf 2020

- Served as TA for two day workshop on how to leverage Javascript in Shiny applications
- Lectured on using R2D3 package to build interactive visualizations.⁵

2019

|
2019

Data Visualization Best Practices

DataCamp

- Designed from bottom up course to teach best practices for scientific visualizations
- Uses R and ggplot2
- In top 10% on platform by popularity

2019

|
2019

Improving your visualization in Python

DataCamp

- Designed from bottom up course to teach advanced methods for enhancing visualization
- Uses python, matplotlib, and seaborn

2018

|
2017

Advanced Statistical Learning and Inference

Vanderbilt Biostatistics Department

📍 Nashville, TN

- TA and lectured
- Topics covered from penalized regression to boosted trees and neural networks
- Highest level course offered in department

2018

|
2018

Advanced Statistical Computing

Vanderbilt Biostatistics Department

📍 Nashville, TN

- TA and lectured
- Covered modern statistical computing algorithms
- 4th year PhD level class

2017

|
2017

Statistical Computing in R

Vanderbilt Biostatistics Department

📍 Nashville, TN

- TA and lectured
- Covered introduction to R language for statistics applications
- Graduate level class

I am passionate about education. I believe that no topic is too complex if the teacher is empathetic and willing to think about new methods of approaching task.



SELECTED DATA SCIENCE WRITING

2019

Using AWK and R to Parse 25tb⁷

LiveFreeOrDichotomize.com

- Story of parsing large amounts of genomics data
- Provided advice for dealing with data much larger than disk
- Reached top of HackerNews

I regularly blog about data science and visualization on my blog LiveFreeOrDichotomize.⁶

- 2018
 - **Classifying physical activity from smartphone data⁸**
RStudio Tensorflow Blog
 - Walk through of training a convolutional neural network to achieve state of the art recognition of activities from accelerometer data.
 - Contracted article.
- 2018
 - **The United States of Seasons⁹**
LiveFreeOrDichotomize.com
 - GIS analysis of weather data to find the most 'seasonal' locations in United States
 - Used Bayesian regression methods for smoothing sparse geospatial data.
- 2017
 - **A year as told by fitbit¹⁰**
LiveFreeOrDichotomize.com
 - Analyzing a full years worth of second-level heart rate data from wearable device.
 - Demonstrated visualization-based inference for large data.
- 2017
 - **MCMC and the case of the spilled seeds¹¹**
LiveFreeOrDichotomize.com
 - Full Bayesian MCMC sampler running in your browser.
 - Coded from scratch in vanilla Javascript.
- 2017
 - **The Traveling Metallurgist¹²**
LiveFreeOrDichotomize.com
 - Pure javascript implementation of traveling salesman solution using simulated annealing
 - Allows reader to customize the number and location of cities to attempt to trick the algorithm.



SELECTED PRESS (ABOUT)

- 2017
|
2017
 - **Great paper? Swipe right on the new 'Tinder for preprints' app¹³**
Science
 - Story of the app Papr¹⁴ made with Jeff Leek and Lucy D'Agostino McGowan.
- 2017
|
2017
 - **Swipe right for science: Papr app is 'Tinder for preprints'¹⁵**
Nature News
 - Second press article for app Papr.
- 2016
|
2016
 - **The Deeper Story in the Data¹⁶**
University of Vermont Quarterly
 - Story on my path post graduation and the power of narrative.



SELECTED PRESS (BY)

2016
|
2016

The Great Student Migration¹⁷

The New York Times

- Most shared and discussed article from the New York Times for August 2016.

2016
|
2016

Wildfires are Getting Worse, The New York Times¹⁸

The New York Times

- GIS analysis and modeling of fire patterns and trends
- Data in collaboration with NASA and USGS

2016
|
2016

Who's Speaking at the Democratic National Convention?¹⁹

The New York Times

- Data scraped from CSPAN records to figure out who talked and past conventions.

2016
|
2016

Who's Speaking at the Republican National Convention?²⁰

The New York Times

- Used same data scraping techniques as Who's Speaking at the Democratic National Convention?

2016
|
2016

A Trail of Terror in Nice, Block by Block²¹

The New York Times

- Led research effort to put together story of 2016 terrorist attack in Nice, France in less than 12 hours.
- Work won Silver medal at Malofiej 2017, and gold at Society of News and Design.



SELECTED PUBLICATIONS, POSTERS, AND TALKS

2020

Building a software package in tandem with machine learning methods research can result in both more rigorous code and more rigorous research

ENAR 2020

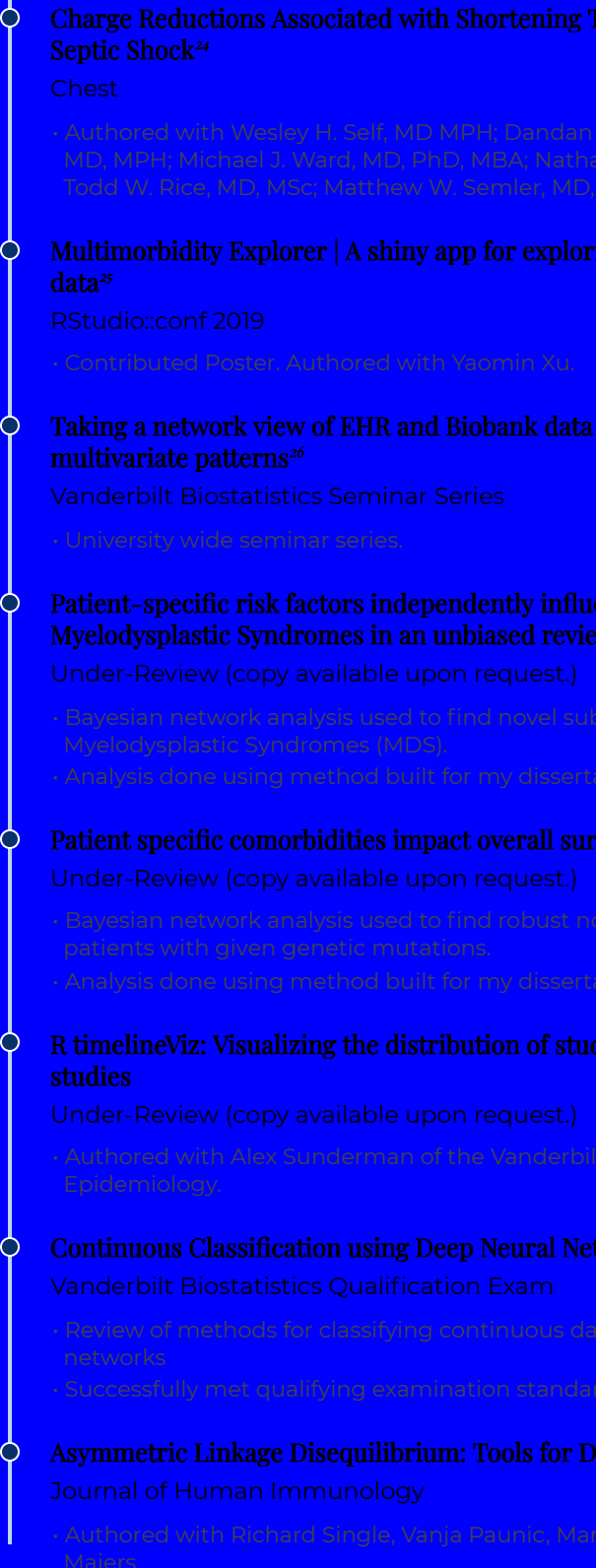
- Invited talk in Human Data Interaction section.
- How and why building an R package can benefit methodological research

2020

Stochastic Block Modeling in R, Statistically rigorous clustering with rigorous code²²

RStudio::conf 2020

- Invited talk about new sbmR package²³
- Focus on how software development and methodological research can improve both benefit when done in tandem.

- 
- 2019
|
2019
- Charge Reductions Associated with Shortening Time to Recovery in Septic Shock²⁴**
Chest
- Authored with Wesley H. Self, MD MPH; Dandan Liu, PhD; Stephan Russ, MD, MPH; Michael J. Ward, MD, PhD, MBA; Nathan I. Shapiro, MD, MPH; Todd W. Rice, MD, MSc; Matthew W. Semler, MD, MSc.
- 2019
|
2019
- Multimorbidity Explorer | A shiny app for exploring EHR and biobank data²⁵**
RStudio::conf 2019
- Contributed Poster. Authored with Yaemin Xu.
- 2019
|
2019
- Taking a network view of EHR and Biobank data to find explainable multivariate patterns²⁶**
Vanderbilt Biostatistics Seminar Series
- University wide seminar series.
- 2019
- Patient-specific risk factors independently influence survival in Myelodysplastic Syndromes in an unbiased review of EHR records**
Under-Review (copy available upon request.)
- Bayesian network analysis used to find novel subgroups of patients with Myelodysplastic Syndromes (MDS).
 - Analysis done using method built for my dissertation.
- 2019
- Patient specific comorbidities impact overall survival in myelofibrosis**
Under-Review (copy available upon request.)
- Bayesian network analysis used to find robust novel subgroups of patients with given genetic mutations.
 - Analysis done using method built for my dissertation.
- 2018
|
2018
- R timelineViz: Visualizing the distribution of study events in longitudinal studies**
Under-Review (copy available upon request.)
- Authored with Alex Sunderman of the Vanderbilt Department of Epidemiology.
- 2017
|
2017
- Continuous Classification using Deep Neural Networks²⁷**
Vanderbilt Biostatistics Qualification Exam
- Review of methods for classifying continuous data streams using neural networks
 - Successfully met qualifying examination standards
- 2015
|
2015
- Asymmetric Linkage Disequilibrium: Tools for Dissecting Multiallelic LD**
Journal of Human Immunology
- Authored with Richard Single, Vanja Paunic, Mark Albrecht, and Martin Maier.

2015
|
2015

An Agent Based Model of Mysis Migration²⁸

International Association of Great Lakes Research Conference

- Authored with Brian O'Malley, Sture Hansson, and Jason Stockwell.

2015
|
2015

Declines of Mysis diluviana in the Great Lakes

Journal of Great Lakes Research

- Authored with Peter Euclide and Jason Stockwell.



LINKS

1. <https://www.nytimes.com/2015/09/27/us/politics/student-migration.html>
2. https://www.nytimes.com/2015/09/27/us/politics/and_r_to_parse_25tb/
3. <https://www.nytimes.com/2015/09/27/us/politics/>
4. <https://www.nytimes.com/2015/09/27/us/politics/>
5. <https://www.nytimes.com/2015/09/27/us/politics/>
6. <https://www.nytimes.com/2015/09/27/us/politics/>
7. https://www.nytimes.com/2015/09/27/us/politics/and_r_to_parse_25tb/
8. <https://www.nytimes.com/2015/09/27/us/politics/safety-detection/>
9. <https://www.nytimes.com/2015/09/27/us/politics/dates-of-seasons/>
10. <https://www.nytimes.com/2015/09/27/us/politics/by-fitbit/>
11. <https://www.nytimes.com/2015/09/27/us/politics/the-case-of-the-spilled.html>
12. <https://www.nytimes.com/2015/09/27/us/politics/metallurgist/>
13. <https://www.nytimes.com/2015/09/27/us/politics/pe-right-new-tinder.html>
14. <https://www.nytimes.com/2015/09/27/us/politics/>
15. <https://www.nytimes.com/2015/09/27/us/politics/app-is-tinder-for.html>
16. <https://www.nytimes.com/2015/09/27/us/politics/>
17. <https://www.nytimes.com/2015/09/27/us/politics/student-migration.html>
18. <https://www.nytimes.com/2015/09/27/us/politics/dates-of-seasons-los-angeles.html>
19. <https://www.nytimes.com/2015/09/27/us/politics/may-not-be-unified-but.html>
20. <https://www.nytimes.com/2015/09/27/us/politics/making-how-this.html>
21. <https://www.nytimes.com/2015/09/27/us/politics/trail-of-terror-france.html>
22. <https://www.nytimes.com/2015/09/27/us/politics/>
23. <https://www.nytimes.com/2015/09/27/us/politics/>
24. <https://www.nytimes.com/2015/09/27/us/politics/>
25. <https://www.nytimes.com/2015/09/27/us/politics/>
26. <https://www.nytimes.com/2015/09/27/us/politics/>
27. <https://www.nytimes.com/2015/09/27/us/politics/>
28. <https://www.nytimes.com/2015/09/27/us/politics/Model-of-the-Diel.html>