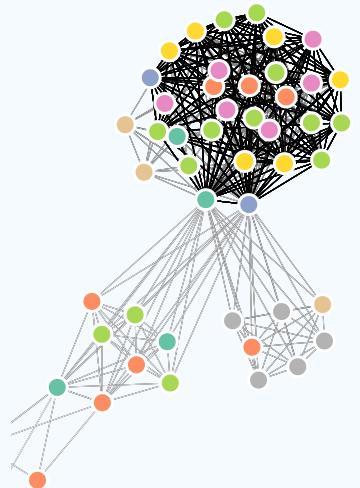


EDUARDO GIRARDI

As a software developer I use my background in data science to build tools to help people explore, understand, and work with their data better. 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.



EDUCATION

2020

PhD., Biostatistics

Vanderbilt University

📍 Nashville, TN

- Dissertation: Network analysis and visualization for electronic health records data.⁵
- Specialized in creating high-performance interactive visualization platforms
- Developed algorithms for efficient real-time network data processing

2015

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
- Focused on computational efficiency, simulation optimization, and interactive model exploration



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.

2018

|

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 d3js).

2015

|

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/datadrivencv/

CONTACT

✉ nick.strayer@gmail.com

🐦 [NicholasStrayer](#)

🔗 github.com/nstrayer

🔗 nickstrayer.me

🔗 linkedin.com/in/nickstrayer

LANGUAGE SKILLS

TypeScript

R

Python

C++

Bash

SQL

AWK

Made with the R package [pagedown](#).

The source code is available on
github.com/nstrayer/cv

Last updated on 2025-11-10.

2015	Human Computer Interaction Researcher LabInTheWild (Reineke Lab)	 University of Michigan
2014 2013	Undergraduate Researcher Bentil Laboratory	 University of Vermont
2013 2012	Research Assistant Adair Laboratory	 University of Vermont

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

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

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

INDUSTRY EXPERIENCE

Current 2024	Principal Software Engineer Posit	 Remote
2024 2023	Senior Software Engineer Posit	 Remote
2023 2020	Software Engineer Posit	 Remote

• Architect and develop full-stack solutions for the Positron data science IDE

• Worked across the Typescript, Python, and Rust codebase to build user-centric interfaces that balance performance with intuitive design

• Collaborate across teams to ensure reliable, maintainable codebase architecture

• Mentored junior developers on frontend best practices and code quality standards

• Created and led development of ShinyUiEditor, a React-based drag-and-drop interface builder

• Designed architecture for real-time previewing and component manipulation using custom psuedo-ast format that allowed translation into either R or Python from the same ast.

• Spearheaded work to simplify and unify the UI layer of R and Shiny using custom webcomponents.

• Part of team who created Shiny for Python, a ground-up rewrite of R's Shiny framework in Python

While most recently I have had the job title of "software engineer", I have worked in a variety of roles ranging from journalist to data scientist. Ultimately categorization is hard.

2016	Data Journalist - Graphics Department New York Times	📍 New York, New York
	<ul style="list-style-type: none"> • Reporter with the graphics desk covering topics in science, politics, and sport. • Work primarily done in R, Javascript, and Adobe Illustrator. • Developed interactive, data-dense visualizations viewed by hundreds of thousands of users 	
2015	Engineering Intern - User Experience Dealer.com	📍 Burlington, VT
	<ul style="list-style-type: none"> • Built internal tool to help analyze and visualize user interaction with back-end products. 	
2015	Data Science Intern Dealer.com	📍 Burlington, VT
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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	Software Engineering Intern Conduce	📍 Carpinteria, CA
	<ul style="list-style-type: none"> • Incorporated d3.js to the company's main software platform. 	

❏ TEACHING EXPERIENCE

2020	Javascript for Shiny Users RStudio::conf 2020	<ul style="list-style-type: none"> • Served as TA for two day workshop on how to leverage Javascript in Shiny applications • Lectured on using R2D3 package to build interactive visualizations.⁶
2019	Data Visualization Best Practices DataCamp	<ul style="list-style-type: none"> • Designed from bottom up course to teach best practices for scientific visualizations. • Uses R and ggplot2. • In top 10% on platform by popularity.

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.

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

• **Advanced Statistical Computing**

Vanderbilt Biostatistics Department

 Nashville, TN

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

2017

• **Statistical Computing in R**

Vanderbilt Biostatistics Department

 Nashville, TN

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

SELECTED DATA SCIENCE WRITING

2019

• **Using AWK and R to Parse 25tb⁸**

LiveFreeOrDichotomize.com

- Achieved 4,800x performance improvement for large-scale genomic data processing.
- Reached top of HackerNews multiple times

I regularly blog about data science and visualization on my blog LiveFreeOrDichotomize.⁷

2018

• **Classifying physical activity from smartphone data⁹**

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 Seasons¹⁰**

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 fitbit¹¹**
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 seeds¹²**
LiveFreeOrDichotomize.com
• Full Bayesian MCMC sampler running in your browser.
• Coded from scratch in vanilla Javascript.
- 2017 • **The Traveling Metallurgist¹³**
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 • **Great paper? Swipe right on the new ‘Tinder for preprints’ app¹⁴**
Science
• Story of the app Papr¹⁵ made with Jeff Leek and Lucy D’Agostino McGowan.
- 2017 • **Swipe right for science: Papr app is ‘Tinder for preprints’¹⁶**
Nature News
• Second press article for app Papr.
- 2016 • **The Deeper Story in the Data¹⁷**
University of Vermont Quarterly
• Story on my path post graduation and the power of narrative.

SELECTED PRESS (BY)

- 2016 • **The Great Student Migration¹⁸**
The New York Times
• Most shared NYT article of August 2016, demonstrating ability to create engaging UIs.
• Used d3.js to realtime render 100 maps for personalized inspection for readers.

- 2016 • **Wildfires are Getting Worse, The New York Times¹⁹**
The New York Times
• GIS analysis and modeling of fire patterns and trends
• Data in collaboration with NASA and USGS
- 2016 • **Who's Speaking at the Democratic National Convention?²⁰**
The New York Times
• Data scraped from CSPAN records to figure out who talked and past conventions.
- 2016 • **Who's Speaking at the Republican National Convention?²¹**
The New York Times
• Used same data scraping techniques as Who's Speaking at the Democratic National Convention?
- 2016 • **A Trail of Terror in Nice, Block by Block²²**
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 code²³**
RStudio::conf 2020
• Invited talk about new sbmR package²⁴.
• Focus on how software development and methodological research can improve both benefit when done in tandem.
- 2020 • **PheWAS-ME: A web-app for interactive exploration of multimorbidity patterns in PheWAS²⁵**
Bioinformatics
• Manuscript detailing application for the exploration of multimorbidity patterns in PheWAS analyses
• See landing page²⁶ for more information.

- 2019
- **Charge Reductions Associated with Shortening Time to Recovery in Septic Shock²⁷**
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
- **Multimorbidity Explorer | A shiny app for exploring EHR and biobank data²⁸**
RStudio::conf 2019
 - Contributed Poster. Authored with Yaomin Xu.
- 2019
- **Taking a network view of EHR and Biobank data to find explainable multivariate patterns²⁹**
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
- **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
- **Continuous Classification using Deep Neural Networks³⁰**
Vanderbilt Biostatistics Qualification Exam
 - Review of methods for classifying continuous data streams using neural networks
 - Successfully met qualifying examination standards
- 2015
- **Asymmetric Linkage Disequilibrium: Tools for Dissecting Multiallelic LD**
Journal of Human Immunology
 - Authored with Richard Single, Vanja Paunic, Mark Albrecht, and Martin Maiers.

- 2015 • **An Agent Based Model of Mysis Migration³¹**
 International Association of Great Lakes Research Conference
 • Authored with Brian O'Malley, Sture Hansson, and Jason Stockwell.
- 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/interactive/2016/08/26/us/college-student-migration.html>
- 2: https://livefreeordichotomize.com/2019/06/04/using_awk_and_r_to_parse_25tb/
- 3: <https://github.com/nstrayer/shinysense>
- 4: <http://nickstrayer.me/dataDayTexas/>
- 5: <https://ir.vanderbilt.edu/handle/1803/16394?show=full>
- 6: http://nickstrayer.me/js4shiny_r2d3/slides
- 7: <https://livefreeordichotomize.com/>
- 8: https://livefreeordichotomize.com/2019/06/04/using_awk_and_r_to_parse_25tb/
- 9: <https://blogs.rstudio.com/tensorflow/posts/2018-07-17-activity-detection/>
- 10: <https://livefreeordichotomize.com/2018/02/12/the-united-states-of-seasons/>
- 11: <https://livefreeordichotomize.com/2017/12/27/a-year-as-told-by-fitbit/>
- 12: <https://livefreeordichotomize.com/2017/10/14/mcmc-and-the-case-of-the-spilled-seeds/>
- 13: <https://livefreeordichotomize.com/2017/09/25/the-traveling-metallurgist/>
- 14: <https://www.sciencemag.org/news/2017/06/great-paper-swipe-right-new-tinder-preprints-app>
- 15: <https://jhubiostatistics.shinyapps.io/papr/>
- 16: <https://www.nature.com/news/swipe-right-for-science-papr-app-is-tinder-for-preprints-1.22163>
- 17: <https://www.uvm.edu/uvmnews/news/deeper-story-data>
- 18: <https://www.nytimes.com/interactive/2016/08/26/us/college-student-migration.html?smid=pl-share>
- 19: <https://www.nytimes.com/interactive/2016/07/25/us/wildfire-seasons-los-angeles.html>
- 20: <https://www.nytimes.com/2016/07/26/upshot/democrats-may-not-be-unified-but-their-convention-speakers-are.html>
- 21: <https://www.nytimes.com/2016/07/19/upshot/whos-not-speaking-how-this-republican-convention-differs.html?smid=pl-share>
- 22: <https://www.nytimes.com/interactive/2016/07/14/world/europe/trail-of-terror-france.html>
- 23: http://nickstrayer.me/rstudioconf_sbm
- 24: <https://tbilab.github.io/sbmR/>
- 25: <https://academic.oup.com/bioinformatics/advance-article-abstract/doi/10.1093/bioinformatics/btaa870/5922817?redirectedFrom=fulltext>
- 26: https://prod.tbilab.org/phewas_me_info/
- 27: <https://www.ncbi.nlm.nih.gov/pubmed/30419234>
- 28: http://nickstrayer.me/rstudioconf19_me-poster/
- 29: http://nickstrayer.me/biostat_seminar/
- 30: http://nickstrayer.me/qualifying_exam/

31: <https://www.semanticscholar.org/paper/An-Agent-Based-Model-of-the-Diel-Vertical-Migration-Strayer-Stockwell/40493c78e8ecf22bd882d17ec99fd913ec4b9820>