

# JACOB WITTMAN

I have made visualizations viewed by hundreds of thousands of people<sup>1</sup>, sped up query times for 25 terabytes of data by an average of 4,800 times<sup>2</sup>, and built packages for R<sup>3</sup> that let you do magic<sup>4</sup>.

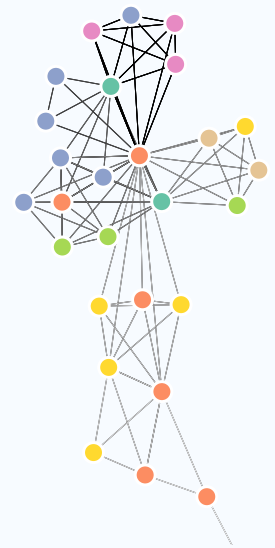
Currently searching for a position that allows me to build tools leveraging a combination of visualization, machine learning, and software engineering to help people explore and understand their data in new and useful ways.

## EDUCATION

- Current  
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2018
- **PhD. Candidate, Entomology (graduate minor Biostatistics)**  
University of Minnesota 📍 Saint Paul, MN
    - Working on Bayesian network models & interactive visualization platforms
    - University Graduate Fellow
  - **M.S., Entomology**  
University of Minnesota 📍 Saint Paul, MN
  - **B.S., Biology, Environmental Studies (minor Secondary Education)**  
Luther College 📍 Decorah, IA
    - Thesis: An agent based model of Diel Vertical Migration patterns of *Mysis diluviana*

## RESEARCH EXPERIENCE

- Current  
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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.
  - **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).

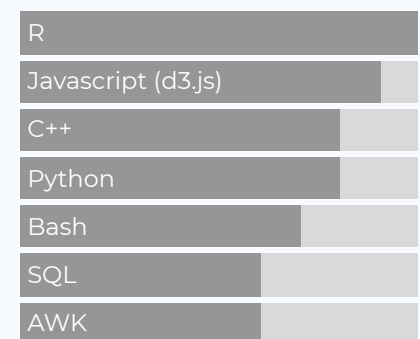


View this CV online with links at [nickstrayer.me/datadrivencv/](https://nickstrayer.me/datadrivencv/)

## CONTACT

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🐦 [wittja01](https://twitter.com/wittja01)  
📄 [github.com/wittja01](https://github.com/wittja01)  
🌐 [linkedin.com/in/wittja01](https://linkedin.com/in/wittja01)

## LANGUAGE SKILLS





Made with the R package [pagedown](https://github.com/nickstrayer/pagedown).


The source code is available on [github.com/nstrayer/cv](https://github.com/nstrayer/cv).


Last updated on 2021-08-09.

- 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.)
- 2015  
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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  
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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  
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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.

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.

2014  
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2014

- **Software Engineering Intern**  
Conduce 📍 Carpinteria, CA
  - Incorporated d3.js to the company's main software platform.



## 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.<sup>5</sup>

2019

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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

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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

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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

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2018

- **Advanced Statistical Computing**  
Vanderbilt Biostatistics Department 📍 Nashville, TN
  - TA and lectured
  - Covered modern statistical computing algorithms
  - 4th year PhD level class

2017

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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 PRESS (ABOUT)

2017  
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2017

- **Great paper? Swipe right on the new “Tinder for preprints” app<sup>6</sup>**  
Science  
• Story of the app Papr<sup>7</sup> made with Jeff Leek and Lucy D’Agostino McGowan.

2017  
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2017

- **Swipe right for science: Papr app is “Tinder for preprints”<sup>8</sup>**  
Nature News  
• Second press article for app Papr.

2016  
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2016

- **The Deeper Story in the Data<sup>9</sup>**  
University of Vermont Quarterly  
• Story on my path post graduation and the power of narrative.



## SELECTED PRESS (BY)

2016  
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2016

- **Who’s Speaking at the Republican National Convention?<sup>10</sup>**  
The New York Times  
• Used same data scraping techniques as Who’s Speaking at the Democratic National Convention?

2016  
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2016

- **A Trail of Terror in Nice, Block by Block<sup>11</sup>**  
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

- **A guide and toolbox to replicability and open science in entomology.**  
Journal of Insect Science  
• J. Wittman and B. Aukema

2020

- **Rail transport as a vector of emerald ash borer**  
Agricultural and Forest Entomology  
• M. Short, K. Chase, T. Feely, A. Kees, J. Wittman, and B. Aukema

2020

- **Factors associated with diversity and distribution of buprestid prey captured by foraging *Cerceris fumipennis* (Hymenoptera: Crabronidae)**  
*Environmental Entomology*  
• M. Hallinen, J. Wittman, and B. Aukema

## 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/](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. [http://nickstrayer.me/js4shiny\\_r2d3/slides](http://nickstrayer.me/js4shiny_r2d3/slides)
6. <https://www.sciencemag.org/news/2017/06/great-paper-swipe-right-new-tinder-preprints-app>
7. <https://jhubiostatistics.shinyapps.io/papr/>
8. <https://www.nature.com/news/swipe-right-for-science-papr-app-is-tinder-for-preprints-1.22163>
9. <https://www.uvm.edu/uvmnews/news/deeper-story-data>
10. <https://www.nytimes.com/2016/07/19/upshot/whos-not-speaking-how-this-republican-convention-differs.html?smid=pl-share>
11. <https://www.nytimes.com/interactive/2016/07/14/world/europe/trail-of-terror-france.html>