

Michael Freeman

Data Visualization Engineer

Overview

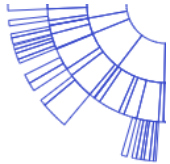
I'm passionate about collaboratively designing and building visualizations to amplify the understanding of data. I bring a set of design and technical skills that allow me to explore and expose pertinent patterns in big data. With a background in public health, I've worked with oncologists, professors, and business analysts to generate insights from data.

Professional Experience

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| 2021 - Present | Data Visualization Developer
Observable |
| 2018 - 2021 | Associate Teaching Professor
The Information School, University of Washington |
| 2019 - 2020 | Fulbright Senior Scholar
Computer Science and Engineering, Polytechnic University of Madrid |
| 2015 - 2018 | Lecturer
The Information School, University of Washington |
| 2013 - 2015 | Data Visualization Specialist
Institute for Health Metrics and Evaluation, University of Washington |
| 2010 - 2013 | Post-Bachelor Fellow
Institute for Health Metrics and Evaluation, University of Washington |
| 2010 - present | Freelance Data Visualization Developer and Instructor
Clients: World Bank, Cisco Systems, Harvard University, Microsoft, American College of Physicians, Privacy Dynamics |

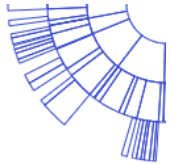
Education

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| 2013 | Master's of Public Health
University of Washington. Focus: Health Metrics and Evaluation |
| 2010 | Bachelor of Arts: Sociology and International Affairs
Colorado College, <i>Magna Cum Laude</i> . |



Selected Conference Presentations and Invited Talks

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| 2020 | Building Generative Art Tools
<i>International Conference on Computational Creativity, Portugal (online)</i> |
| 2020 | Teaching Visualization Through D3.js
<i>D3.js Meet-up, San Francisco (online)</i> |
| 2019 | Visualizing Concepts: Using Data to Explain Scientific Topics
<i>University of Warsaw, Warsaw</i> |
| 2019 | Design Processes for Effective Visual Communication
<i>University of Warsaw Physics Department, Warsaw</i> |
| 2019 | Predicting Survivorship of Lung Cancer Patients
<i>Fulbright Spain Research Seminar, Madrid</i> |
| 2019 | Visually Communicating Statistical and Machine Learning Methods
<i>Strata Data Conference, London</i> |
| 2018 | Visualization for Global Health
<i>Metis Data Science, Seattle</i> |
| 2018 | React for D3 Users
<i>OpenVis Conference, Paris</i> |
| 2017 | Visually Explaining Statistical and Machine Learning Concepts
<i>Open Data Science Conference, San Francisco</i> |
| 2016 | Writing Reusable Visualization Software with D3
<i>Strata Data Conference, Singapore</i> |
| 2016 | Using Storytelling to Effectively Communicate data
<i>Microsoft, Seattle</i> |
| 2016 | Visualizing Concepts with D3.js
<i>PLOTCON, New York</i> |
| 2015 | Visualizing Methods and Models for Decision Makers
<i>Strata Data Conference, New York</i> |
| 2014 | Using Storytelling to Enhance Interactive Visualizations
<i>Strata Data Conference, Barcelona</i> |



Publications

I have worked independently and as part of large research groups¹ to publish various books, instructional videos, and refereed journal articles. While my primary research area is population health measurement, my current focus is developing learning materials for people starting to write code to create visualizations.

Books and Published Online Trainings

Freeman, Michael and Ross, Joel. *Programming Skills for Data Science: Start Writing Code to Wrangle, Analyze, and Visualize Data with R*. Boston, MA: Addison-Wesley, 2018.

Freeman, Michael. *Using Storytelling to Effectively Communicate Data: Tips and Techniques for Data Visualization*. Infinite Skills, 2015.

Refereed Journal Articles

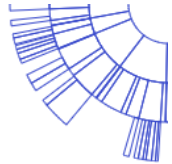
Bui, Anthony L, Rouselle F Lavado, Elizabeth K Johnson, Benjamin PC Brooks, Michael K **Freeman**, Casey M Graves, Annie Haakenstad, Benjamin Shoemaker, Michael Hanlon, and Joseph L Dieleman. “National Health Accounts Data from 1996 to 2010: A Systematic Review.” *Bulletin of the World Health Organization* 93, no. 8 (August 1, 2015): 566-576D. <https://doi.org/10.2471/BLT.14.145235>.

Dieleman, Joseph L., Casey Graves, Elizabeth Johnson, Tara Templin, Maxwell Birger, Hannah Hamavid, Michael **Freeman**, et al. “Sources and Focus of Health Development Assistance, 1990–2014.” *JAMA* 313, no. 23 (June 16, 2015): 2359. <https://doi.org/10.1001/jama.2015.5825>.

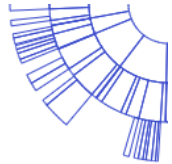
Freeman, Michael K, Ella Sanman, Krycia Cowling, Marie Ng, Alan D Lopez, Ali Mokdad, Christopher JL Murray, and Emmanuela Gakidou. “Concentrating Risk: A Systematic Analysis of the Global Smoking Epidemic.” *The Lancet* 381 (June 2013): S52. [https://doi.org/10.1016/S0140-6736\(13\)61306-9](https://doi.org/10.1016/S0140-6736(13)61306-9).

Lim, Stephen S, Theo Vos, Abraham D Flaxman, Goodarz Danaei, Kenji Shibuya, Heather Adair-Rohani, Mohammad A AlMazroa, **et al**. “A Comparative Risk Assessment of Burden of Disease and Injury Attributable to 67 Risk Factors and

¹ For work with large groups, my name is not always listed as part of the citation (part of et al.)



- Risk Factor Clusters in 21 Regions, 1990–2010: A Systematic Analysis for the Global Burden of Disease Study 2010.” *The Lancet* 380, no. 9859 (December 2012): 2224–60. [https://doi.org/10.1016/S0140-6736\(12\)61766-8](https://doi.org/10.1016/S0140-6736(12)61766-8).
- Lozano, Rafael, Mohsen Naghavi, Kyle Foreman, Stephen Lim, Kenji Shibuya, Victor Aboyans, Jerry Abraham, **et al.** “Global and Regional Mortality from 235 Causes of Death for 20 Age Groups in 1990 and 2010: A Systematic Analysis for the Global Burden of Disease Study 2010.” *The Lancet* 380, no. 9859 (December 2012): 2095–2128. [https://doi.org/10.1016/S0140-6736\(12\)61728-0](https://doi.org/10.1016/S0140-6736(12)61728-0).
- Murray, Christopher J. L., **et al.** “The State of US Health, 1990–2010: Burden of Diseases, Injuries, and Risk Factors.” *JAMA* 310, no. 6 (August 14, 2013): 591. <https://doi.org/10.1001/jama.2013.13805>.
- Murray, Christopher J L, Theo Vos, Rafael Lozano, Mohsen Naghavi, Abraham D Flaxman, Catherine Michaud, Majid Ezzati, **et al.** “Disability-Adjusted Life Years (DALYs) for 291 Diseases and Injuries in 21 Regions, 1990–2010: A Systematic Analysis for the Global Burden of Disease Study 2010.” *The Lancet* 380, no. 9859 (December 2012): 2197–2223. [https://doi.org/10.1016/S0140-6736\(12\)61689-4](https://doi.org/10.1016/S0140-6736(12)61689-4).
- Murray, Christopher JL, Spencer L James, Jeanette K Birnbaum, Michael K **Freeman**, Rafael Lozano, and Alan D Lopez. “Simplified Symptom Pattern Method for Verbal Autopsy Analysis: Multisite Validation Study Using Clinical Diagnostic Gold Standards.” *Population Health Metrics* 9, no. 1 (December 2011). <https://doi.org/10.1186/1478-7954-9-30>.
- Murray, Christopher JL, Rafael Lozano, Abraham D Flaxman, Peter Serina, David Phillips, Andrea Stewart, Spencer L James, **et al.** “Using Verbal Autopsy to Measure Causes of Death: The Comparative Performance of Existing Methods.” *BMC Medicine* 12, no. 1 (December 2014). <https://doi.org/10.1186/1741-7015-12-5>.
- Ng, Marie, Michael K. **Freeman**, Thomas D. Fleming, Margaret Robinson, Laura Dwyer-Lindgren, Blake Thomson, Alexandra Wollum, et al. “Smoking Prevalence and Cigarette Consumption in 187 Countries, 1980–2012.” *JAMA* 311, no. 2 (January 8, 2014): 183. <https://doi.org/10.1001/jama.2013.284692>.
- Salomon, Joshua A, Haidong Wang, Michael K **Freeman**, Theo Vos, Abraham D Flaxman, Alan D Lopez, and Christopher JL Murray. “Healthy Life Expectancy for 187 Countries, 1990–2010: A Systematic Analysis for the Global Burden Disease



Study 2010.” *The Lancet* 380, no. 9859 (December 2012): 2144–62.

[https://doi.org/10.1016/S0140-6736\(12\)61690-0](https://doi.org/10.1016/S0140-6736(12)61690-0).

Serina, Peter, Ian Riley, Andrea Stewart, Abraham D. Flaxman, Rafael Lozano, Meghan D Mooney, Richard Luning, **et al.** “A Shortened Verbal Autopsy Instrument for Use in Routine Mortality Surveillance Systems.” *BMC Medicine* 13, no. 1 (December 2015). <https://doi.org/10.1186/s12916-015-0528-8>.

Serina, Peter, Ian Riley, Andrea Stewart, Spencer L. James, Abraham D. Flaxman, Rafael Lozano, Bernardo Hernandez, **et al.** “Improving Performance of the Tariff Method for Assigning Causes of Death to Verbal Autopsies.” *BMC Medicine* 13, no. 1 (December 2015). <https://doi.org/10.1186/s12916-015-0527-9>.

Lozano, Rafael, Michael K **Freeman**, Spencer L James, Benjamin Campbell, Alan D Lopez, Abraham D Flaxman, and Christopher JL Murray. “Performance of InterVA for Assigning Causes of Death to Verbal Autopsies: Multisite Validation Study Using Clinical Diagnostic Gold Standards.” *Population Health Metrics* 9, no. 1 (December 2011). <https://doi.org/10.1186/1478-7954-9-50>.

Vos, Theo, Abraham D Flaxman, Mohsen Naghavi, Rafael Lozano, Catherine Michaud, Majid Ezzati, Kenji Shibuya, **et al.** “Years Lived with Disability (YLDs) for 1160 Sequelae of 289 Diseases and Injuries 1990–2010: A Systematic Analysis for the Global Burden of Disease Study 2010.” *The Lancet* 380, no. 9859 (December 2012): 2163–96. [https://doi.org/10.1016/S0140-6736\(12\)61729-2](https://doi.org/10.1016/S0140-6736(12)61729-2).