

## **ABSTRACT**

Data visualization is a rapidly expanding field whose skills, techniques and insights are increasingly intertwined in disciplines across and beyond academia. Given the interdisciplinary nature of data visualization, libraries are uniquely situated to support building skills and communities of practice in this area.

A growing number of academic libraries provide instruction, consultation, technology, and spaces to support data visualization as part of a broader expansion in library data services. Since few graduate programs in library science offer training in data visualization, many later career librarians are finding it necessary to develop data visualization skills on the job.

Due to factors, including lack of resources, time, and training opportunities, one of the great challenges for researchers and librarians is developing the necessary skill set and expertise in data visualization to engage critically in the discipline.

This presentation will provide an overview of current visualization services in a number of academic libraries and the state of the field.

It will include an overview of opportunities and challenges as well as a discussion of ways that libraries can expand both their tool-based and critical support for data visualization and data visualization literacy.

# The state of data visualization support in libraries

**Andy Rutkowski**

University of Southern California

**Justin Joque**

University of Michigan

**Angela Zoss**

Duke University

# Presentation Outline

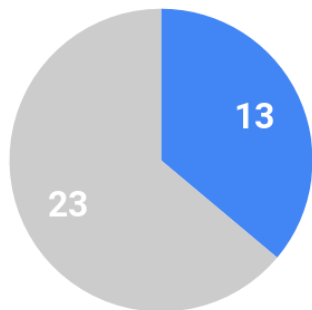
- Results of 2017 survey of visualization in libraries
- Examples of current strategies
- Opportunities/challenges

# 2017 Survey of Visualization in Libraries

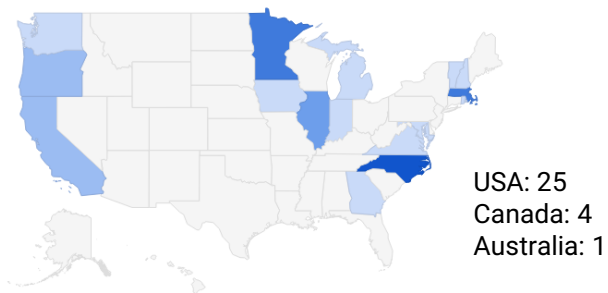
**36**  
participants

**30**  
institutions

Job title includes  
"visualization"



My position involves:



# Training opportunities for librarians



**Midwest Data  
Librarian Symposium**

**Southeast Data  
Librarian Symposium**

**DSVIL** DATA SCIENCE AND VISUALIZATION  
INSTITUTE FOR LIBRARIANS



# Institutional Snapshot: Duke University



Covers data sources,  
GIS, visualization,  
data management,  
data science



**Eric Monson**

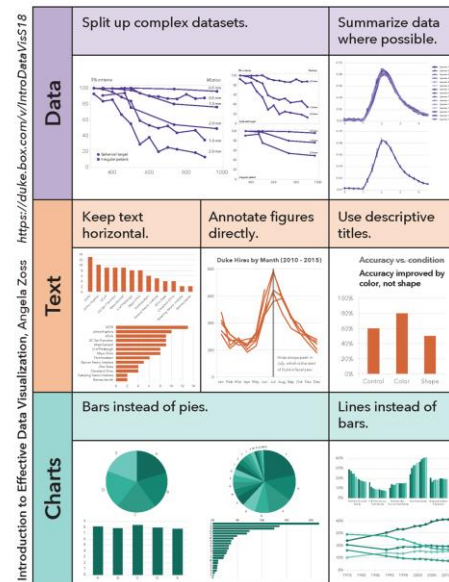
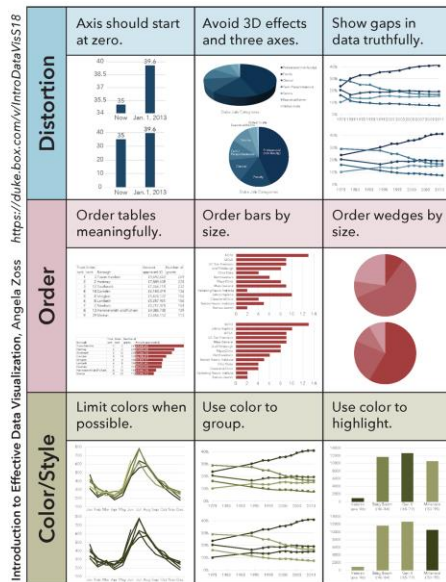


**Angela Zoss**

(now in Assessment &  
User Experience)

# Short introduction to visualization best practices

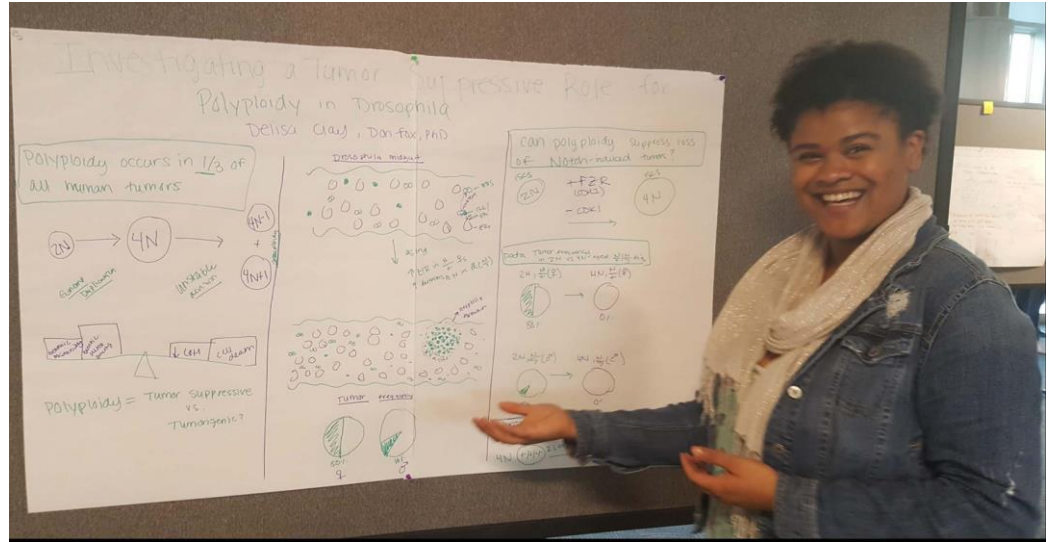
- A simple **one-hour** workshop to cover basic tips and tricks
- **No tools**, so easy to deliver without technology
- Includes **handout** and sample charts in Excel file
- Advertises other services, like **consultations**



<https://duke.box.com/v/IntroDataVisS18>

# Poster design as the workhorse

- A **widely-needed** and transferable skill
- Introduces basic principles of **graphic design**
- Can target **specific groups** that are required to make posters
- *Challenge: faculty-created poster templates*
- *Opportunity: translate poster workshop content to slideshows, infographics*

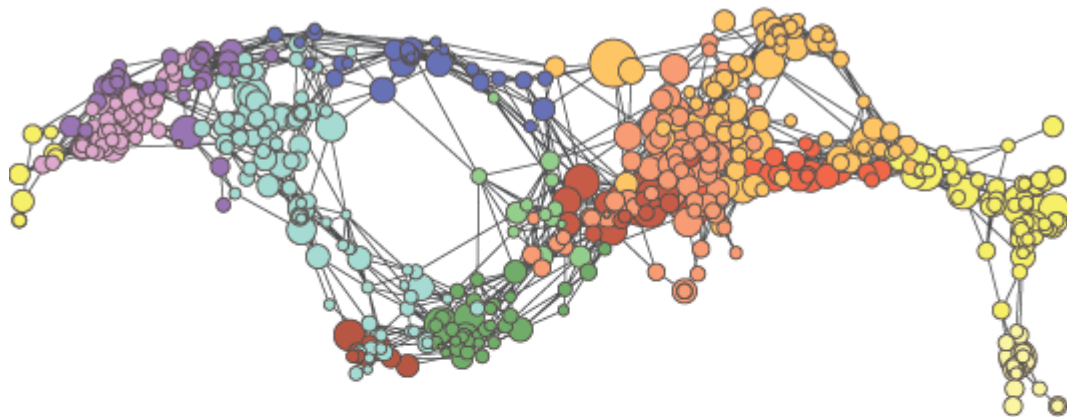


<http://bit.ly/2JaZmhM>



# Community building

- Weekly talk series
- Various topics  
*projects with vis focus,  
tool highlights, lectures  
from related fields*
- Helps to have food!



## **Visualization Friday Forum**

*Fridays at noon*

**LSRC D106**

<http://vis.duke.edu/FridayForum>

# **Institutional Snapshot: UCLA/USC**

# UCLA's DResSUP: A scalable model for visualization services and programming

<http://dressup.library.ucla.edu/>

## Tools & skills covered

Project-based, process-oriented: DResSUP staff structure the workshops around the projects that graduate students propose. Rather than doing projects for you, we train you on tools and methods that will bring your project and skills to the next stage.

### Project management & organization

Platforms such as Open Science Framework and Git/GitHub to manage workflow, store and organize project files, code, as well as communications and output.

### Collecting & creating data

Capture structured data from the world ?wild? web using web-scraping and indexing tools and techniques, or creating your own data through markup, description, etc.

### Cleaning & structuring data

Clean and organize ?messy? data using regular expressions, OpenRefine, R, and Python.

### Analyzing & visualizing data

Explore and analyze data using spatial mapping, networks, and text-mining; and explore visualization techniques and tools to identify and analyze patterns.

### Sharing research & data

Promoting open, sharable data and making your research available in various web-based platforms and formats.

### Connecting & community

Join a dynamic community of researchers and expert library staff working with data-intensive projects and tools.

# PARTNERSHIPS SCALABILITY PROCESS



# Bringing R to a writing course at USC: An experiment in information literacy

ti(internet)

☐ Full text

☐ Peer reviewed

☒ Additional limits - Date: From January 01 2002 to January 01 2003

24,948 results

Search within

Relevance

Sort

Narrow results

Full text

Peer reviewed


Source type

More options...

☐ Select 1-20

0 Selected items

☐ 1




INTERNET SECURITY SOLUTION

Internet Risk Impact Summary re


threats fuelled by widespread vul

M2 Presswire; Coventry [Coventry]25 A

Abstract/Details

 Full text


☐ 2




HotTech: THE INTERNET ADVOC

Chediak, Mark. San Francisco Business

Details

 Full text

☐ 3




FTC Consumer Protection: E-com

Avoid Internet Investment Scams

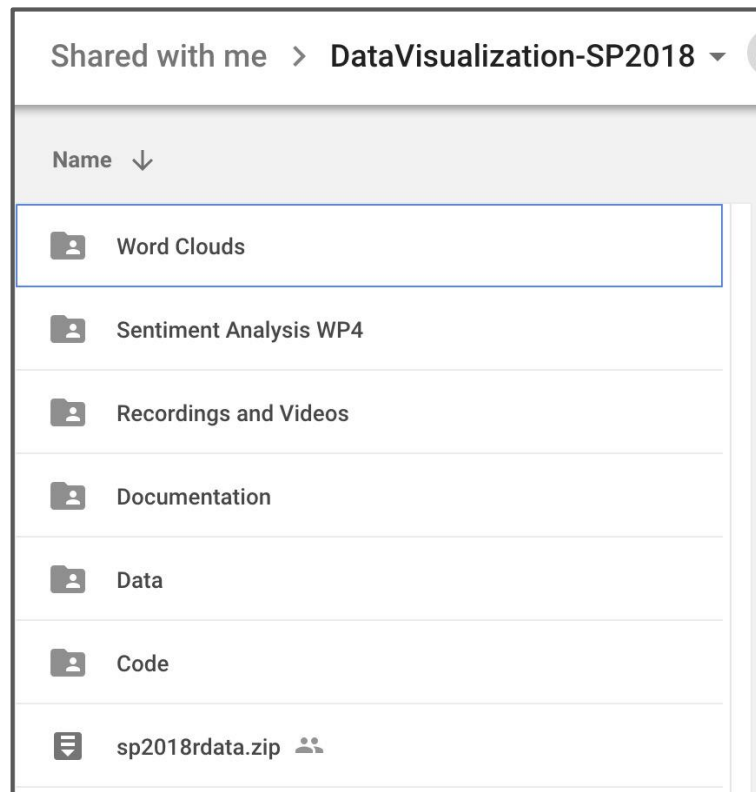
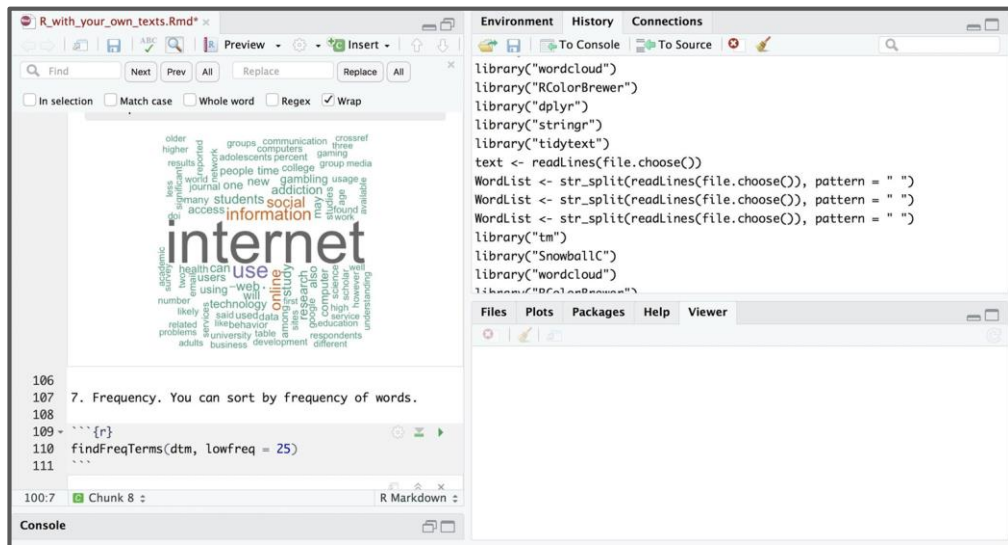
Serchay, David. Library Journal; New Yo

Abstract/Details

 Full text



# EMBEDDED LEARNING



# **Institutional Snapshot: Michigan**

# University of Michigan

## Tech\_and\_texts

[Download .zip](#)[Download .tar.gz](#)[View on GitHub](#)

Tech and Texts is an open seminar/workshop hosted by the University of Michigan Library to explore applied technology and theory. This semester our focus will be on text analysis. Over the course of the Fall 2017 semester we will meet every other Wednesday from 10:30am - 12:00pm to discuss, explore and experiment with various computational textual analysis technologies and theoretical texts. Meetings will be held in the Clark Library Presentation Space (2 South Hatcher).

Meetings are open to anyone at any skill level. It is not necessary to attend all meetings; please join us as you have time and interest. The text discussions will include a brief introduction to the reading. Tech explorations will be an open format for experimentation and shared learning (please bring a laptop). If you have any questions about the series you can contact Justin Joque ([joque@umich.edu](mailto:joque@umich.edu)) or Alix Keener ([alixkee@umich.edu](mailto:alixkee@umich.edu)).

PDFs of all of the readings are available. Please register by filling out [this form](#) and we will give you access to download them. [Last years schedule is available here.](#)

### Fall\_2017 Schedule:

**September 20th - Overviews: Bookworm and Google Ngram Viewer**

[HathiTrust Research Center Bookworm](#)



# University of Michigan

## Digital Projects Studio

About

The Digital Projects Studio is part of the University of Michigan's Clark Library. We provide tutorials and support for visualization work. Connect to our workshops and projects below, or peruse our [blog](#) for additional information.

## Workshops

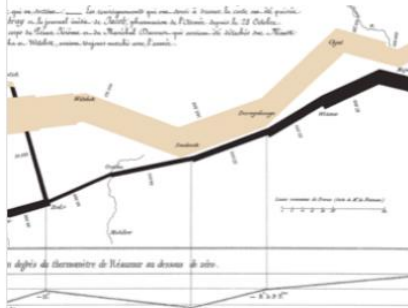
### arc\_gis



Introductory resources for learning GIS with ArcGIS Desktop.

[More](#)

### complex\_mapping



A workshop on creating maps in ArcGIS from complex and multivariable datasets.

[More](#)

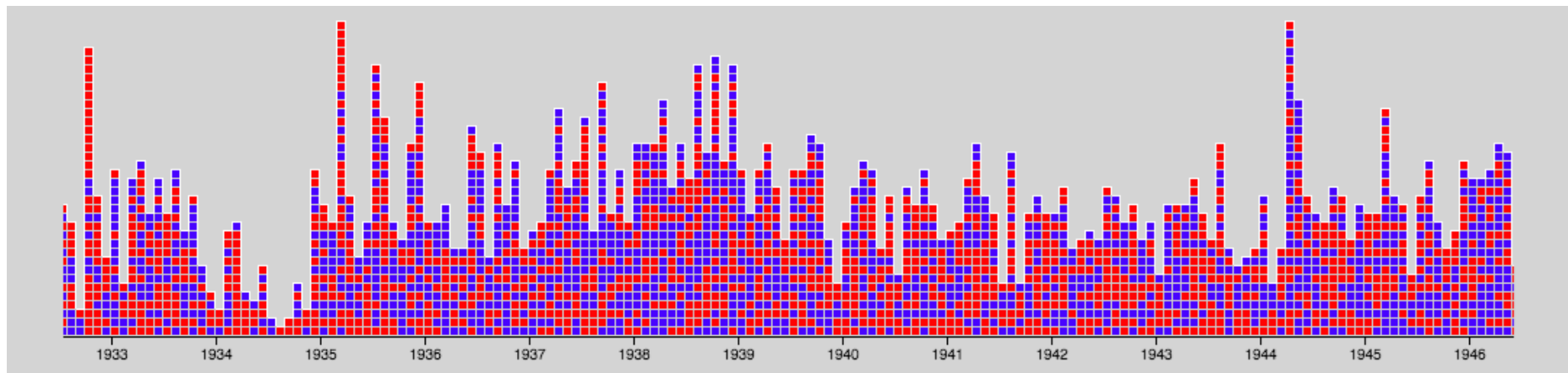
### cytoscape



A workshop for network analysis using the free and open source software Cytoscape.

[More](#)

# University of Michigan



# Challenges/Opportunities

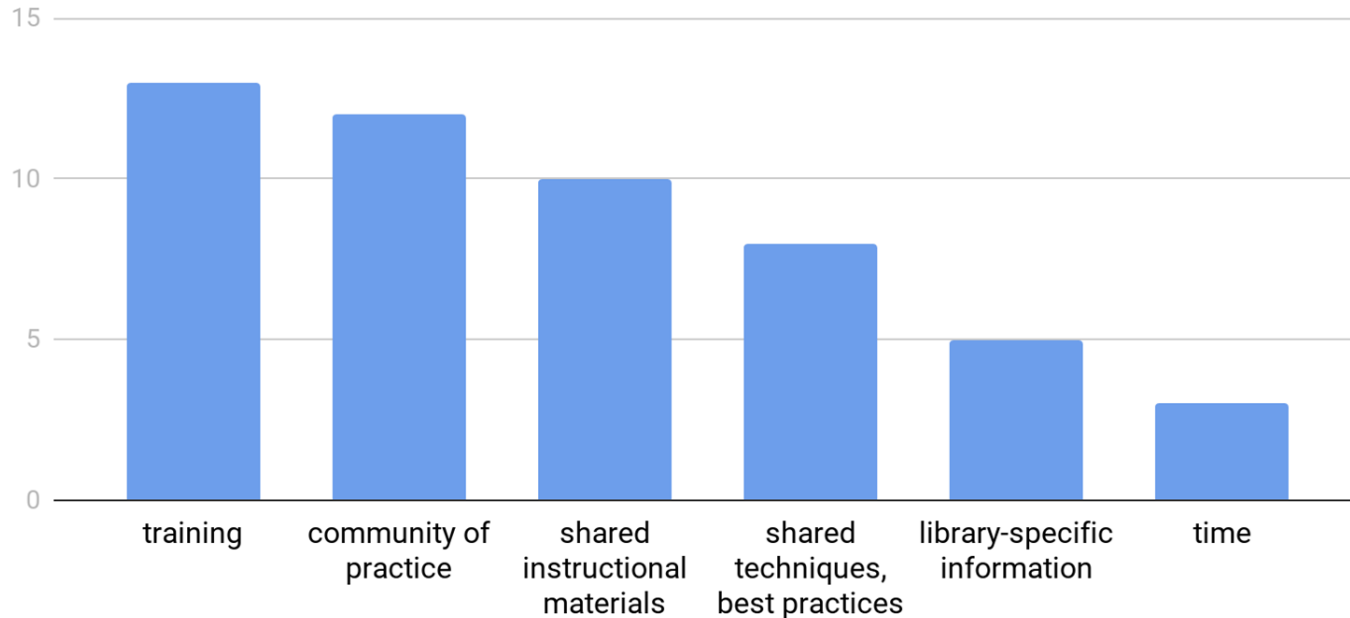
# Challenge: From tools to literacies

(tools are easy, literacies are important)

# Challenge: From silos to networks

(basically, “data visualization librarianship” isn’t yet a community of practice)

# What professional development resources would help you do your job more efficiently or effectively?



28 total responses

# IMLS Grant Proposal: Visualizing the Future

- National Forum Grant
- Proposed to start in spring of 2019
- Gather individuals working on visualization to create a framework for library support for data visualization