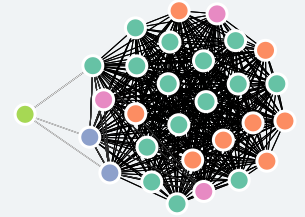# LIZ ROTEN

I am a highly motivated data scientist and cartographer with a passion for data visualization. I make complex topics easy to understand using compelling visual design. My static and interactive visualizations are attractive and powerful tools for decision making.

EXPERIENCE

Current | 2018

Data Scientist
Metropolitan Council

St. Paul, MN

- Data scientist in community development research and travel research and modeling.
- Duties include data visualization, research methods and statistical model development, and R package development and maintenance.
- Promoted from Associate in May 2021

2018

Research Intern
Metropolitan Council

St. Paul, MN

- Developed innovative method for using aggregated and anonymized location-based services (LBS)/ cell phone location data to analyze regional parks traffic patterns across multiple seasons and years.
- Independently created an interactive, online data visualization using open-source tools, such as R Shiny, and a git-based workflow.
- Successfully presented findings to stakeholders and provided complete documentation.

EDUCATION

2018 | 2014

B.A., Geography, (Data Science, Community and Global Health)
Macalester College

St. Paul, MN

- Emphasis on data science, GIS, quantitative research methods, and visual design

SELECT PROJECTS AND TALKS

September 2023

The 'I' in Team - Peer-to-peer best practices for growing data science teams
posit::conf(2023)

Chicago, IL

- How to gracefully expand your team without pulling your hair out

May 2023

Transportation System Performance Evaluation
Metropolitan Council

St. Paul, MN

- A comprehensive review of the Twin Cities transportation system, built with R and Quarto

CONTACT

✉ roten.elizabeth@gmail.com

🌐 lizroten.com

View this resumé online with links at *lizroten.com*

KEY SKILLS

R
R Shiny
R package development
HTML/CSS, JavaScript
Tableau
Adobe Illustrator
VS Code
JavaScript
Git/GitHub
ESRI Products
Project management

OPEN SOURCE CONTRIBUTIONS

`councilR` Organization specific package for consistent style and data practices.
`streetlightR` R wrapper for StreetLight InSight® API.
`covid-poops` Shiny app for monitoring COVID-19 viral presence in metro wastewater.

July 2022

Oddly Satisyfing - Find delight in the mundane

rstudio::conf(2022)

📍 Washington, D.C.

- How to take a project you hate and turn it into something you love

February 2022

COVID-19 Surveillance at the Metro Plant

Metropolitan Council

📍 St. Paul, MN

- Open source project and R Shiny app

December 2021

Regional Truck Corridor Study

Metropolitan Council

📍 St. Paul, MN

- Making a legacy project reproducible

March 2021

Regional Parks and the American Community Survey

Metropolitan Council

📍 St. Paul, MN

- Interactive visualization displaying regional parks and trails in context with American Community Survey (ACS) demographic data

February 2021

Twin Cities Rent Trends

Metropolitan Council

📍 St. Paul, MN

- Interactive dashboard for analyzing rental housing market trends in the seven-county Twin Cities region
- Users can compare metrics by data source and visualize the relationship between rent and vacancy rates

October 2020

Monitoring public adherence to social distancing guidelines with traffic data

2020 AMPO Virtual Conference

📍 Remote

- To estimate public adherence to social distancing guidelines during the Coronavirus outbreak, we analyzed departures from typical traffic volumes on the metro freeway system of the Twin Cities region. A robust modeling approach, open-source code repository, and web-based dashboard for interacting with the data are assisting decision makers in Minnesota as they update social distancing guidelines and monitor economic recovery.

October 2020

Using Location Based Services Data for Calculating the Greenhouse Emissions of Communities in the Minnesota Metropolitan Region

2020 AMPO Virtual Conference

📍 Remote

- To address the scarcity of transportation emissions data in Minnesota, the Metropolitan Council of the Twin Cities has developed greenhouse gas emission estimates for transportation and land for cities, townships, and counties of the Twin Cities Metropolitan Region. This session will demonstrate how to leverage big data to centralize this type of research, save public funding, and enable communities to focus their efforts on implementing strategies to become more sustainable.

October 2020

councilR

Metropolitan Council   📍 St. Paul, MN

- Created and maintained an organization specific R package
- Package includes templates, color palettes, and standard data processing functions

July 2020

Greenhouse Gas Emissions from Passenger and Commercial Transportation

Metropolitan Council   📍 St. Paul, MN

- Independently developed technique for estimating greenhouse gas emissions from commerical and passenger vehicles
- Collaborated with colleagues to include data in comprehensive greenhouse gas emissions inventory

July 2020

Minimum distance to COVID-19 testing facilities

Metropolitan Council   📍 St. Paul, MN

- A map series analyzing how COVID-19 testing centers are distributed across Minnesota

June 2019

Como Regional Park Hex Grid StreetLight Analysis

Metropolitan Council   📍 St. Paul, MN

- Visualize high activity areas within Como Regional Park and seasonal trends

December 2017

3 Years of Mental Health: A quantified-self story

lizroten.com   📍 St. Paul, MN

- Mapping my travel patterns and mental health from 2015-2017

2017

Chuck Green Civic Engagement Fellowship

JustUs Health   📍 St. Paul, MN

- Independently researched mental health disparities through large-scale client survey and literature review
- Gathered comprehensive feedback from JustUs staff through focus groups and interviews

⤳ SELECT DATA SCIENCE WRITING

July 2022

Color Palette Exploration
lizroten.com

- Color palette exploration with ggplot2 and generative methods

April 2021

Radial rtistry
lizroten.com

- Generative art with ggplot2

March 2021

Maps with {edgebundle}
lizroten.com

- Mapping US flight networks

April 2020

Finding the perfect sock pattern with ravelRy
lizroten.com

- Using the Ravelry API to find just the right sock pattern

February 2021

How eMoods Aided My Recovery And Inspired My Data Science Career
emoodtracker.com

- Guest blog post on mental health and data science resulting from my "3 Years of Mental Health: A quantified-self story" project

February 2020

Housing Density in US Cities
lizroten.com

- Examining residential zoning in Pittsburgh, Austin, and Boston

October 2019

Fisk's 'Mississippi Meander' in R
lizroten.com

- A few maps inspired by Harold Fisk's 1944 geological investigation

November 2017

HIV and African American Populations in the US
Macalester College

- A value-by-alpha map showing the intersection of African American populations and HIV prevalence

I blog about data science and visualization on my website lizroten.com

🏆 AWARDS

2023 ● **Productivity and Goal Attainment**
Metropolitan Council   📍 St. Paul, MN

- Awarded for work on the Transporation System Performance Evaluation

2022 ● **Keystone Award**
Metropolitan Council   📍 St. Paul, MN

- A cross-functional team came together to effectively share our monitoring data on the Met Council's COVID-19 wastewater surveillance webpage and with the media.
- The Keystone Award recognizes employees who demonstrate exceptional work performance. The award recognizes employees for being good ambassadors for the agency and for delivering unique, exceptional and inspired projects.

2021 ● **Community Builder Award - Dream Team**
Metropolitan Council   📍 St. Paul, MN

- Awarded along with Todd Graham, Matt Schroeder, and Krysten Ryba-Tures for outstanding work in measuring and visualizing how the COVID-19 pandemic affects the region's workers and households with focus on race/ethnicity and cultural group disparities.