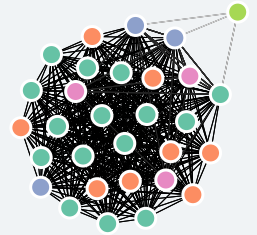


LIZ ROTEN

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
|
2024

Senior Data Scientist

Metropolitan Council

📍 St. Paul, MN

- Data scientist in travel research and modeling.
- Duties include data visualization, research methods and statistical model development, and R package development and maintenance.
- Promoted from standard in February 2024

2024
|
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

CONTACT

✉ roten.elizabeth@gmail.com

🌐 lizroten.com



View this resumé online with links at
lizroten.com

KEY SKILLS

R
R Shiny
R package development
Quarto
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.

May 2023	Transportation System Performance Evaluation Metropolitan Council <div> 📍 St. Paul, MN </div> <ul style="list-style-type: none"> • A comprehensive review of the Twin Cities transportation system, built with R and Quarto
July 2022	Oddly Satisfying - Find delight in the mundane rstudio::conf(2022) <div> 📍 Washington, D.C. </div> <ul style="list-style-type: none"> • 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 <div> 📍 St. Paul, MN </div> <ul style="list-style-type: none"> • Open source project and R Shiny app
December 2021	Regional Truck Corridor Study Metropolitan Council <div> 📍 St. Paul, MN </div> <ul style="list-style-type: none"> • Making a legacy project reproducible
March 2021	Regional Parks and the American Community Survey Metropolitan Council <div> 📍 St. Paul, MN </div> <ul style="list-style-type: none"> • Interactive visualization displaying regional parks and trails in context with American Community Survey (ACS) demographic data
February 2021	Twin Cities Rent Trends Metropolitan Council <div> 📍 St. Paul, MN </div> <ul style="list-style-type: none"> • 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 <div> 📍 Remote </div> <ul style="list-style-type: none"> • 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 <div> 📍 Remote </div> <ul style="list-style-type: none"> • 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 commercial 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 Transportation 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.