

# ROSE CONTI PORTA

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## SUMMARY

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Statistician with a strong background in programming and data analysis, dedicated to supporting the wellbeing of people and communities. Key strengths include communication of statistical ideas to non-technical audiences, wrangling large and complex datasets into tidy formats, and creating powerful visualizations and dashboards.

## EDUCATION

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### UNIVERSITY OF MASSACHUSETTS AMHERST

Amherst, MA

Department of Mathematics and Statistics | **Cumulative GPA:** 4.0/4.0

M.S. in Statistics Spring 2024

**Relevant Coursework:** Regression Modeling, Categorical Data Analysis, Causal Inference, Statistical Computing, Mathematical Statistics I and II, Bayesian Statistics, Statistical Methods for Data Science, Statistical Consulting

### SMITH COLLEGE

Northampton, MA

**Major:** Statistical & Data Sciences | **Concentration:** Community Engagement & Social Change

B.A. Spring 2023

**Cumulative GPA:** 3.99/4.0

## SKILLS

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R (tidyverse, Shiny), Python, SQL, Stan, Java, GitHub, data manipulation, data visualization, data analysis, data communication, Google Sheets, Microsoft Excel, Jupyter Notebook, Mathematica, Data Wrapper, LaTeX, project management

## WORK EXPERIENCE

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### University of Massachusetts Amherst, Department of Mathematics and Statistics

Amherst, MA

Graduate Teaching Assistant

Fall 2023-Spring 2024

- Led 2 weekly discussion classes of 30 students each for Elementary Statistics to engage students in practicing lecture material.
- Synthesized course materials into concise review sheets by chapter including key concepts and hands-on activities.
- Held 3 office hours per week to support students in working through homework and preparing for exams.

### Smith College, Jandon Center for Community Engagement

Northampton, MA

Summer Intern

Summer 2023

- Compiled publicly available database of over 150 activist memoirs as a resource for students and faculty at Smith College; used R to web-scrape info from online best-sellers lists ([https://scholarworks.smith.edu/dds\\_data/16/](https://scholarworks.smith.edu/dds_data/16/)).
- Cleaned and visualized data to highlight involvement of over 300 students across 15 Jandon programs for the annual report.

### Women's Brick Initiative (WBI)

Mercer Island, WA

Data Analysis Intern | [github.com/rporta23/WBI](https://github.com/rporta23/WBI)

Summer 2022

- Analyzed diversity and representation within LEGO Minifigures using a database of over 10,000 toys from BrickLink.
- Collaboratively wrote 20 short blog-style articles to convey research findings to the public through the WBI website.
- Used R for web scraping, data wrangling, and data visualization; GitHub for code collaboration and version control.

### DSC-WAV: NSF Funded Workforce Development Grant through Smith College

Northampton, MA

Data Science Intern | <https://dsc-wav.github.io/www/projects.html>

Fall 2021-Spring 2022

- Collaborated with New England Public Media to convey the impact of Highway I-91's construction in Springfield, MA.
- Built an interactive map using historical images and racial demographic data to visualize community shifts from 1950-2010.
- Employed Leaflet and R Shiny to develop the dashboard, and GitHub to work collaboratively according to a Scrum workflow.

### B.I.G. Summer Research Program, Institute for Quantitative & Computational Biosciences, UCLA

Los Angeles, CA

Research Assistant | <https://qcb.ucla.edu/big-summer/big2021/#toggle-id-47>

Summer 2021

- Detected cell type interaction eQTL effects from bulk RNA-seq data using computational methods under Dr. Pasaniuc.
- Authored an abstract and delivered a 5-minute presentation to communicate research findings.

### Smith College, Department of Statistical and Data Sciences

Northampton, MA

Research Assistant

Fall 2019-Spring 2021

- Edited introductory data science textbook *Modern Data Science with R* by Dr. Benjamin S. Baumer, *et al.*
- Contributed to the development of an R package used to import data from Wikipedia into R.

## SCHOLARLY PUBLICATIONS

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C.S. Li, **R. Porta**, S Chaudhary. (2022). Sex Differences in Depression and Sleep Disturbance as Inter-Related Risk Factors of Diabetes. *Frontiers in Clinical Diabetes and Healthcare*, Volume 3, [doi.org/10.3389/fcdhc.2022.914451](https://doi.org/10.3389/fcdhc.2022.914451)

## PROJECTS

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### Predictive Analysis of Hospital Costs

University of Massachusetts Amherst

<https://github.com/rporta23/hospital-costs>

Spring 2024

- Implemented 20 different statistical learning techniques in R to predict hospital costs and to compare methods.
- Estimated test error using 10-fold cross validation for each method.
- Conducted a simulation study to assess the impact of the number of neighbors used in the k nearest neighbors algorithm.

### Predicting Auto Insurance Claim Costs Using Historical Claim Data

University of Massachusetts Amherst

Travelers Analytics Case Competition 2023

Fall 2023

- Built an ensemble Machine Learning Model to predict claim costs using Python; evaluated performance using Gini Index.
- Assessed contribution of each feature using feature importance plots and SHAP Beeswarm plots.
- Communicated the business impact of our findings via a 10-minute presentation to the Travelers team.

### Analysis of Access to Emergency Funds in Sub-Saharan Countries

Smith College

Sponsored by Women at the Table | <https://github.com/sds-capstone/2022-09-proj7-women-at-table>

Fall 2022

- Trained a Decision Tree Classifier Machine Learning model to predict whether an individual has access to emergency funds with 68% accuracy utilizing demographic and financial data sourced from The World Bank's 2017 Global Findex Database.
- Implemented de-biasing techniques and fairness metrics to assess and improve fairness of the model based on gender.
- Documented a complete and detailed analysis in a Google Colab notebook structured as an educational resource for more ethical machine learning including full explanations of each step of the analysis oriented toward a non-technical audience.

### Trends in Students Studying Early Childhood Education in The Pioneer Valley, MA

Smith College

In partnership with Community Action Pioneer Valley Head Start and Early Learning Programs

Fall 2022

- Collected and analyzed data on the numbers and demographics of students studying Early Childhood Education (ECE) from 9 post-secondary institutions within the Pioneer Valley, MA.
- Integrated data from IPEDS, the Census Bureau Household Pulse Survey, and the Bureau of Labor Statistics in order to contextualize the survey data into the larger story of the ECE labor shortage and the impacts of the pandemic on the same.
- Summarized findings into a report for Community Action Pioneer Valley Head Start and Early Learning Programs in order to inform their funding plans for the upcoming funding cycle.

### censusviz R package

Smith College

[github.com/rporta23/censusviz](https://github.com/rporta23/censusviz)

Spring 2022

- Built an R package to visualize geospatial historical racial demographic census data from 1950 to 2010 for any U.S. county.
- Devised functionality for visualizing the data on leaflet maps and for accessing the data in an accessible, tidy format.

## LEADERSHIP EXPERIENCE

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### Smith College Community Service Organization (CSO), Fall 2021- Spring 2023

- Served on the CSO Board for 2 consecutive academic years as *Chair of House Representatives* and *Board Chair* respectively.
- Led a team of 6 board members in planning events to build community among students and serve the broader community.
- Coordinated 2 major annual projects: blanket making for folks in need and a book drive for incarcerated people.
- Tracked and maintained data for events and initiatives including attendance, date, time, and location using Salesforce.

### American Red Cross Volunteer, Disability Integration, Summer 2022

- Compiled a resource guide of 25 organizations that provide services for folks with disabilities within the Eastern NY Region and distributed it to be readily available in emergency shelters that pop up in response to natural disasters.
- Reached out to organizations compiled to collaborate and meet the needs of folks with disabilities during natural disasters.
- Contributed to creating bins of resources to address immediate needs of folks with disabilities to be available in pop-up shelters; bins contained supplies such as fidget toys, noise-canceling headphones, weighted blankets, and specialized utensils.

## AWARDS AND HONORS

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### Kathleen Bostwick Boyden Prize for Excellence in Community Engagement

Smith College, May 2023

Each year, this prize goes to a graduating senior for stellar leadership and commitment to community engagement.

### Inducted into Mu Sigma Rho (National Honor Society for Statistics)

Smith College, May 2023

### American Statistical Association Five College DataFest First Place Winner

Smith College, April 2023

DataFest is a nationally-coordinated undergraduate competition in which teams of students work over a weekend to extract insight from a rich and complex data set. (<https://science.smith.edu/datafest>)

### Community Engagement Award

Smith College Impact Awards, April 2023

Recognizes a long-term or consistent student-led effort to engage the community and have an impact beyond Smith College.

### Undergraduate Statistics Class Project Competition Intermediate Statistics Division First Place Winner, Spring 2020

### Smith's Student Research in Departments (STRIDE) Scholar

Smith College, 2019-2023