

Ryan Zomorodi

rzomor2@uic.edu

EDUCATION

Master of Science – Biostatistics

University of Illinois Chicago

Aug 2023 – May 2025

- GPA: 4.00

Bachelor of Science – Biological Science

University of Illinois Chicago

Aug 2019 – May 2023

- Minors: Computer Science & Public Health
- Graduated with Highest Distinction
- Honors College
- GPA: 4.00

WORK EXPERIENCE

Research Associate

Children's Environmental Health Initiative

Jun 2023 – Present

- Performed geospatial analysis of hospital and physician accessibility utilizing two-step floating catchment area methods.
- Developed Rate Stabilizing Toolbox in Python to generate generating reliable, local-level age-standardized measures of chronic disease using the restricted univariate conditional autoregressive (UCAR) bayesian model.
- Generated measures of hurricane exposure for 15 severe storms in order facilitate analysis of hurricane exposure effects on mortality amongst elderly individuals.
- Instructed state, tribal, and local public health professionals on the use of GIS to assess and address chronic health disparities.

SOFTWARE

[socratadata](#)

R package API wrapper that utilizes Rust to parse Socrata datasets into R dataframes. Also features support for Socrata Query Language (SoQL) and the Socrata Discovery API.

[arcpygrs](#)

Python toolbox for downloading Census boundaries into an ArcGIS Pro project. Inspired heavily by the R package tigris.

[sasquatch](#)

R package that bridges SAS and R. Utilizes the Python package SASPy to enable transfer of data between R and SAS, interactive SAS evaluation, basic remote SAS client file management, and rendering of SAS within quarto/rmarkdown documents.

[healthatlas](#)

R package API wrapper for Metopio health atlas data. Allows for easy exploration of health atlas datasets and metadata.

[centr](#)

R package that designed to calculate planar or geodesic weighted mean or median spatial centers.

Rate Stabilizing Toolbox

Python toolbox for generating reliable, local-level age-standardized measures of chronic disease using the restricted univariate conditional autoregressive (UCAR) bayesian model.

PRESENTATIONS & WORKSHOPS

Enhancing Local Level Surveillance and Data Visualization of Health Outcomes: Introducing a Set of Rate Stabilizing Tools

Council of State and Territorial Epidemiologists 10 Jun 2025

Enhancing Data to Action: Approaches for Using Maps to Address Chronic Disease

Council of State and Territorial Epidemiologists 9 Jun 2025

Encounter with sasquatch: Using SAS, R, and Quarto together

SAS Open Source Community of Practice 25 May 2025

Presentation Link

Using GIS to Study Social Determinants of Health with R

Northern Arizona University Center for Health Equity Research 6 – 7 Jun 24

Resource Link

An Introduction to ArcGIS Online Mini-Course

GIS Capacity Building Project 17 – 24 Oct 23

A Gentle Introduction to GIS Mini-Course

GIS Capacity Building Project 19 – 26 Sep 23

RNA-sequencing analysis of Macrophage Hyperactivation

UIC Undergraduate Research Forum 18 Apr 2023

Empowering Community Members to Investigate and Address Chicago's Health Disparities

American Public Health Association 9 Nov 2022

Empowering Community Members to Investigate and Address Chicago's Health Disparities

UIC Minority Health Conference 8 Apr 2022

Recording Link

Developing Student Workshops to Increase Community Engagement in Addressing Chicago's Health Disparities

UIC School of Public Health Research and Scholarship Week Lightning Talks 22 Apr 2022

PUBLICATIONS

Significance of IL-34 and SDC-1 in the pathogenesis of RA cells and preclinical models

Clinical Immunology May 2023

[10.1016/j.clim.2023.109635](https://doi.org/10.1016/j.clim.2023.109635)

Inhibition of IRAK4 dysregulates SARS-CoV-2 spike protein-induced macrophage inflammatory and glycolytic reprogramming

Cellular and Molecular Life Sciences May 2022

[10.1007/s00018-022-04329-8](https://doi.org/10.1007/s00018-022-04329-8)

Metabolic reprogramming of macrophages instigates CCL21-induced arthritis

Immunology & Cell Biology Dec 2021

[10.1111/imcb.12512](https://doi.org/10.1111/imcb.12512)

Metabolic regulation of RA macrophages is distinct from RA fibroblasts and blockade of glycolysis alleviates inflammatory phenotype in both cell types

Cellular and Molecular Life Sciences Oct 2021

[10.1007/s00018-021-03978-5](https://doi.org/10.1007/s00018-021-03978-5)

Interleukin-34 Reprograms Glycolytic and Osteoclastic Rheumatoid Arthritis Macrophages via Syndecan 1 and Macrophage Colony-Stimulating Factor Receptor

Arthritis & Rheumatology Sep 2021

[10.1002/art.41792](https://doi.org/10.1002/art.41792)

Tofacitinib therapy intercepts macrophage metabolic reprogramming instigated by SARS-CoV-2 Spike protein

European Journal of Immunology Jun 2021

[10.1002/eji.202049159](https://doi.org/10.1002/eji.202049159)

CCL25 and CCR9 is a unique pathway that potentiates pannus formation by remodeling RA macrophages into mature osteoclasts	
European Journal of Immunology	Jan 2021
10.1002/eji.202048681	
IRAK4 inhibition: a promising strategy for treating RA joint inflammation and bone erosion	
Cellular & Molecular Immunology	May 2020
10.1038/s41423-020-0433-8	
Macrophages are the primary effector cells in IL-7-induced arthritis	
Cellular & Molecular Immunology	Jun 2019
10.1038/s41423-019-0235-z	
Impact of obesity on autoimmune arthritis and its cardiovascular complications	
Autoimmunity Reviews	Jun 2018
10.1016/j.autrev.2018.02.007	

TEACHING EXPERIENCE

GIS Training for Surveillance of Heart Disease, Stroke, and Other Chronic Diseases in State Health Departments	
GIS Capacity Building Project	25 Mar 25 — 31 Jul 25
Hawaii State Department of Health & University of Hawai'i GIS Capacity Building	
GIS Capacity Building Project	28 Jan 25 — 12 Jun 25
Advanced GIS Training for Surveillance of Heart Disease, Stroke and Other Chronic Diseases Among Health Department Staff	
GIS Capacity Building Project	13 Nov 24 - 29 Jan 25
State Health Departments Chronic Disease Surveillance	
GIS Capacity Building Project	6 Mar 24 — 31 Jul 24
Tribal Epidemiological Centers Chronic Disease Surveillance	
GIS Capacity Building Project	10 Oct 23 — 31 Jan 24

HONORS

Highest Distinction	
UIC Department of Biological Sciences	2023
Pasteur Prize Nominee	
UIC Department of Biological Sciences	2023
Research Grant	
UIC Honors College	2022
Travel Grant	
UIC Honors College	2022
Maurice Prize	
UIC Student Leadership and Civic Engagement	2022
Undergraduate Most Outstanding Presentation	
UIC School of Public Health Research Week	2022
Chancellor's Student Service Award	
UIC Student Leadership and Civic Engagement	2022
President's Volunteer Service Award - Bronze	
UIC Student Leadership and Civic Engagement	2021
1st place - Division 4	
Collegiate Chess League	2021
Chancellor's Student Service Award	
UIC Student Leadership and Civic Engagement	2021
Research Grant	
UIC Honors College	2020

PROFESSIONAL MEMBERSHIP

American Public Health Association

2022

Harvard Innovation Lab

2022 – 2024

Clinton Global Initiative University Fellowship

2023

American Society for Biochemistry and Molecular Biology

2020 – 2022

REFERENCES

Available upon request