

Ryan Zomorodi

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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.

Pharmacy Technician

Walgreens

July 2021 – Jun 2023

- Utilized electronic health records software to access patient medical records, input insurance, allergy, and health condition records, and resolve patient inquiries.
- Resolved insurance inquiries and resubmitted claims in order to ensure patient prescription adherence.
- Filled, mixed, and dispensed prescriptions for approval by pharmacists.

RESEARCH EXPERIENCE

Independent Project

Geoadvocates

Dec 2021 – Jun 2024

- Designed, in collaboration with another student, a two-part workshop series curriculum to teach students within multiple classes outlining medical deserts within Chicago and how students can utilize Geographic Information Systems (GIS) to expose Chicago health disparities.

- Presented to several UIC courses (SOC251, PUBH100, US101, SOC100, and PPOL100) and registered student organizations.
- Designed, collected, and analyzed survey data taken from participants before and after each workshop.
- Discussed findings at conferences including the UIC Minority Health Conference and UIC School of Public Health Research and Scholarship Week Lightning Talks.

Research Assistant

Department of Rheumatology, University of Illinois at Chicago

Jul 2018 — May 2023

- Conducted and oversaw experimental techniques such as ELISA and qRT-PCR.
- Independently, recorded and analyzed experimental data using both Excel & R.
- Relayed analyses to principal investigator & discussed findings.
- Implemented bioinformatic analysis of RNA-seq data including differential expression, weighted network gene correlation analysis (WGNCA), Passing Attributes between Networks for Data Assimilation (PANDA), and more.

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

Beyond the eye of the storm: why localized, multi-dimensional aspects of severe weather exposure matter for vulnerable, older adult populations

CAFE: Hurricanes & Health: Understanding Risks and Fostering Resilience

4 Aug 2025

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	
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	
Metabolic reprogramming of macrophages instigates CCL21-induced arthritis	
Immunology & Cell Biology	Dec 2021
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	
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	
Tofacitinib therapy intercepts macrophage metabolic reprogramming instigated by SARS-CoV-2 Spike protein	
European Journal of Immunology	Jun 2021
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