Samuel Ozminkowski

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Education

Northwestern University   September 2022 – Present
Ph.D. Student - Statistics

University of Wisconsin-Madison   September 2020 – May 2022
Master of Science - Statistics

University of Michigan-Ann Arbor   September 2014 – April 2018
Bachelor of Science with Distinction - Computer Science; Minor: Sociocultural Anthropology

Publications

[1] **S. Ozminkowski** and C. Solís-Lemus, "Identifying microbial drivers in biological phenotypes with a bayesian network regression model", *Ecology and Evolution*, vol. 14, 5 2024. DOI: 10.1002/ece3.11039.

Preprints/In Progress

[2] **S. Ozminkowski**, Y. Wu, H. Bruzzone, L. Yang, Z. Xu, L. Selberg, C. Huang, H. Jaramillo Mesa, and C. Solís-Lemus, "Bioklustering: A web app for semi-supervised learning of maximally unbalanced genomic data", 2022. [Online]. Available: https://arxiv.org/abs/2209.11730.

[3] K. R. Amato, B. R. Lake, **S. Ozminkowski**, H. Jiang, M. Moy, M. L. Savo Sardaro, A. Fultz, and L. M. Hopper, "Exploring the utility of the gut microbiome as a longitudinal health monitoring tool in sanctuary chimpanzees (pan troglodytes)", 2024.

Presentations

- Identifying microbial drivers in biological phenotypes with a Bayesian Network Regression model, **Samuel Ozminkowski** & Claudia Solís-Lemus, *Intelligent Systems for Molecular Biology*, Madison, WI, July 10-14, 2022

Posters

- Identifying microbial drivers in biological phenotypes with a Bayesian Network Regression model, **Samuel Ozminkowski** & Claudia Solís-Lemus, *Intelligent Systems for Molecular Biology*, Madison, WI, July 10-14, 2022

- Identifying microbial drivers in biological phenotypes with a Bayesian Network Regression model, **Samuel Ozminkowski** & Claudia Solís-Lemus, *U.S. Department of Energy Genomic Science Program PI Meeting*, Online, February 28 - March 1, 2022

- Bayesian network regression with applications to microbiome data, **Samuel Ozminkowski** & Claudia Solís-Lemus, *JuliaCon*, Online, July 28-30, 2021

Honors and Awards

Dept. of Statistics and Data Science Doctoral Qualifying Exam Alumni Award
September 2023   *Northwestern University*

Statistics M.S. Exam Special Mention
November 2021   *University of Wisconsin-Madison*

University Honors
Fall 2014, Fall & Winter 2015, Fall & Winter 2016   *University of Michigan*

William J. Branstrom Freshman Prize
Winter 2015   *University of Michigan*

Open-Source Software Development

Bayesian Network Regression
- Developed a new package for the Julia programming language to implement a Bayesian regression framework for network covariates.
- GitHub link: BayesianNetworkRegression.jl

BioKlustering
- Along with a team of undergraduates, helped develop a user-friendly open-source and publicly available web app for unsupervised and semi-supervised learning specialized in cases when sequence alignment and/or experimental phenotyping of all classes are not possible.
- GitHub link: BioKlustering

Teaching

Introduction to Statistical Theory & Methodology III
March 2024-June 2024

Teaching Assistant — *Northwestern University*
- Held office hours and graded homework and exams for 28 first year statistics Ph.D. and Masters students
- This was the third course in the first year mathematical statistics sequence
- Material focused on linear models (from a theoretical perspective), both general and generalized

Introduction to Statistical Theory & Methodology II
January 2024-March 2024

Teaching Assistant — *Northwestern University*
- Taught discussion section, held office hours and graded homework for 35 first year statistics Ph.D. and Masters students
- This was the second course in the first year mathematical statistics sequence
- Material focused on sufficiency/completeness, point estimation, and hypothesis testing (in small and large samples)

Introduction to Statistical Theory & Methodology I
September 2023-December 2023

Teaching Assistant — *Northwestern University*
- Held office hours and graded homeworks and exams for 35 first year statistics Ph.D. and Masters students
- This was the first course in the first year mathematical statistics sequence
- Material focused on distribution theory and asymptotics

Statistics for the Life Sciences
September 2020–December 2020

Teaching Assistant — *UW-Madison*
- Taught discussion sections, held office hours, and graded assignments for 60+ undergraduates
- Course material focused on basic statistics and R programming for biology students

Leadership

Solís-Lemus Lab
May 2021 – Present

Research Mentor — *UW-Madison*
- Managed and mentored a statistics undergraduate student in testing a web application implementing clustering models
- GitHub link: Bioklustering

Biological Interactions Program/Solís-Lemus Lab
May 2021 – August 2021

Research Mentor — *UW-Madison*
- Provided mentorship to an undergraduate student studying biology in analyzing phylogenetic data

Epic Systems Corp.
June 2020 – August 2020

Internship Mentor — *Madison, WI*
- Mentored an undergraduate intern through successful development of a new graphing framework for laboratory results

Rotaract Michigan
January 2015 – April 2018

President – May 2017–April 2018 — *University of Michigan*
- Oversaw 9-member Executive Board, ran semi-weekly board meetings
- Coordinated club activities with Rotary Club of Ann Arbor
- Planned semi-weekly meetings for general members

Local Service Committee – Chair 2016–2017
- Worked with leaders from local non-profits and volunteer organizations to organize service events for Rotaract Club members
- Planned week-long service trips with the Carolina Mountain Land Conservancy and Hiwassee River Watershed Coalition in western North Carolina

Code-M
May 2017 – April 2018

Executive Board Member — *University of Michigan*
- Organized tech talks with companies looking to recruit U of M students
- Organized and presented technical workshops and social events for club members

Outreach

PBS Wisconsin Education - Meet the Lab

Data Decoders: Superpowered by Computers

- Interviewed about statistics research for video geared toward elementary school students.
- WPBS link: Meet the Lab

Work Experience

Epic Systems Corp.   **August 2018 – August 2020**

Software Developer, Lab Charging Lead   *Madison, WI*

- Lead team of three developers to design and develop new full-stack web application to allow lab users to intake external orders and specimens using C#, JavaScript, SASS, & MUMPS
- Organized, designed, and completed development of bug fixes for laboratory charging

University of Michigan Information and Technology Services   **May 2016 – July 2018**

Canvas Crew   *Ann Arbor, MI*

- Assisted professors with change from CTools to Canvas online system
- Performed basic data analysis to gain information on the status of the transition
- Offered one-on-one help with course site design
- Performed technical troubleshooting of Canvas courses

Technical Skills

Languages: Julia, Python, R, C#, JavaScript/TypeScript, MUMPS, C++
Technologies/Frameworks: Linux/Bash, Git/GitHub, R Shiny, .NET