

SAMUEL OZMINKOWSKI

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Education

Northwestern University September 2022 – June 2027 (Expected)

Ph.D. Candidate - Dept. of Statistics and Data Science

University of Wisconsin-Madison September 2020 – May 2022

M.S. - Statistics

University of Michigan-Ann Arbor September 2014 – April 2018

B.S. (with distinction) - Computer Science; Minor: Sociocultural Anthropology

Honors, Awards, and Grants

Graduate School Travel Grant

August 2026

Northwestern University

- Awarded to support travel to present at the 2026 Joint Statistical Meeting.

ENAR Distinguished Student Paper Award

March 2026

ENAR Spring Meeting

- Awarded for “Dynamic Interaction Networks Estimation from High-Dimensional Longitudinal Data via Multivariate Mixed-Effects Models”.
- Included travel award to present at Eastern North American Region of the International Biometric Society (ENAR) 2026 spring meeting.

Bruce Spencer Outstanding Graduate TA Award

June 2025

Northwestern University

- Award honoring exceptional contributions of graduate GAs and TAs based on faculty nominations and evaluations.

Dept. of Statistics and Data Science Doctoral Qualifying Exam Alumni Award

September 2023

Northwestern University

- Award given to the second-year graduate student who earns the top score on the PhD qualifying exam.

Statistics M.S. Exam Special Mention

November 2021

University of Wisconsin-Madison

Publications

- [1] E. Ozminkowski, **S. Ozminkowski**, and H. Bashir, “Methotrexate treatment for pain due to osteoarthritis of the hand and knee: A systematic review and meta analysis”, *Reumatología Clínica*, 2026. DOI: 10.1016/j.reuma.2026.502248.
- [2] 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)”, *American Journal of Primatology*, 2025. DOI: 10.1002/ajp.70004.
- [3] **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

- [4] **S. Ozminkowski**, L. Hou, D. R. Jacobs, Jr, and H. Jiang, “Dynamic co-expression network estimation via multivariate mixed-effects models”, 2026. DOI: 10.48550/arXiv.2605.30577,
* *A version of this paper won a 2026 ENAR Distinguished Student Paper Award.*
- [5] **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. DOI: 10.48550/arXiv.2209.11730.

Work In Progress

- [6] **S. Ozminkowski**, H. Jiang, and M. Neykov, “Statistical guarantees for covariance estimation with adversarial corruption”, in preparation.
- [7] D. Dragovic, **S. Ozminkowski**, J. Chang, T. Gullapalli, V. Lazaro-Camp, S. Smith, H. Jiang, B. Nelson, E. Zhang, and M. Alam, “Evaluating response rate as a metric of validity in expert opinion surveys: Evidence from monte carlo simulation studies”, in preparation.

Presentations

- (Upcoming) Modeling Sparse Dynamic Interaction Networks from High-Dimensional Longitudinal Data: A New Approach With Applications to the Proteome, *Joint Statistical Meeting*, Boston, MA, August 1-6, 2026
- Dynamic Interaction Networks Estimation from High-Dimensional Longitudinal Data via Multivariate Mixed-Effects Models, *Eastern North American Region of the International Biometric Society (ENAR) Spring Meeting*, Indianapolis, IN, March 15-18, 2026
- Identifying microbial drivers in biological phenotypes with a Bayesian Network Regression model, *Intelligent Systems for Molecular Biology*, Madison, WI, July 10-14, 2022

Posters

- *Intelligent Systems for Molecular Biology*, Madison, WI, July 10-14, 2022
- *U.S. Department of Energy Genomic Science Program PI Meeting*, Online, February 28 - March 1, 2022
- *JuliaCon*, Online, July 28-30, 2021

Professional Development

CU Multi Omics NETwork Analysis Workshop (MONET)

July 8-14, 2025

University of Colorado Anschutz Medical Campus

- Attended Lectures and Hands-On Learning Sessions on State of the Art techniques in multi-omics network analysis
- Participated in ethics and responsible conduct of research discussions
- Gained understanding of application via tours of a biotech company as well as CU facilities
- Funded by the National Institutes of Health (NIH)/ National Human Genome Research Institute (NHGRI)

Open-Source Software Development

DCENT

- Developed efficient R package using Rcpp implementing the algorithms developed in “Dynamic co-expression network estimation via multivariate mixed-effects models” for co-expression network estimation.
- GitHub link: <https://github.com/samozm/DCENT>

Bayesian Network Regression

- Developed a new package for the Julia programming language to implement a Bayesian regression framework for network covariates.
- GitHub link: <https://github.com/solislemuslab/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: <https://github.com/solislemuslab/bioklustering>

Teaching

Probability for Statistical Inference I

Fall 2024

Teaching Assistant

Northwestern University

- The first course in the three-course measure-theoretic probability sequence for second-year PhD students.
- Material focused on an introduction to mathematical probability theory including measure theory, the law of large numbers, and the central limit theorem, together with statistical applications.

Probability for Statistical Inference II

Winter 2025, 2026

Teaching Assistant

Northwestern University

- The second course in the three-course measure-theoretic probability sequence for second-year PhD students
- Material focused on conditional expectation, martingales, and other stochastic processes from a measure theoretic perspective.

Applied Probability for Statistics

Spring 2025, 2026

Teaching Assistant

Northwestern University

- The third course in the three-course measure-theoretic probability sequence for second-year PhD students
- The aim of the course is to provide tools to connect the theory taught in the first two courses of the sequence to statistical applications

Qualification Exam Review Session

Summer 2024, 2025, 2026

Instructor

Northwestern University

- Led review session on statistical theory and methodology for first year graduate students preparing for their qualification exam
- Generated and taught solutions to previous qualifying exams
- Content Focused on distribution theory and asymptotics

Advanced Statistical Theory I

Fall 2024

Teaching Assistant

Northwestern University

- The first course in a two-course theoretical sequence
- Material focused on high-dimensional statistical models and non-parametric statistical models
- The aim of the course is to provide theoretical background and mathematical tools to read and understand the current statistical literature

Advanced Statistical Theory II

Winter 2025

Teaching Assistant

Northwestern University

- The second course in a two-course theoretical sequence
- Material focused on high-dimensional statistical models and hypothesis testing
- The aim of the course is to provide theoretical background and mathematical tools to read and understand the current statistical literature

Research Training Institute on Cluster-Randomized Trials

July 2024, 2026

Workshop Assistant

IPR at Northwestern University

- Facilitated a small group of workshop participants as they prepared an outline and presentation proposal for a grant from the Institute of Education Sciences
- Workshop funding was provided by the National Center for Education Research.

Improving Evaluations of R&D in STEM Education 2024 Summer Institute

July 2024

Workshop Assistant

IPR at Northwestern University

- Facilitated a small group of 6 workshop participants as they critiqued and improved a previously published small-efficacy study.
- Workshop funding was provided by the National Science Foundation

Introduction to Statistical Theory & Methodology I

Fall 2023

Teaching Assistant

Northwestern University

- The first course in the first year mathematical statistics sequence
- Material focused on distribution theory and asymptotics

Introduction to Statistical Theory & Methodology II

Winter 2024

Teaching Assistant

Northwestern University

- The 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 III

Spring 2024

Teaching Assistant

Northwestern University

- 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.

Statistics for the Life Sciences

Fall 2020

Teaching Assistant

UW-Madison

- Course material focused on basic statistics and R programming for biology students.

Leadership

Solís-Lemus Lab

May 2021 – September 2022

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

Non-Academic 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 (Proficient): Julia, C++, Python, R

Languages (Experienced/Out of Practice): C#, JavaScript/TypeScript, MUMPS

Technologies/Frameworks: Linux/Bash, Git/GitHub