Nicholas Aaron Syring

Contact Information

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Professional Experience

Iowa State University, Department of Statistics, *Assistant Professor*, 2020 – **Current Position**

Allstate Insurance, *Data Scientist*, 12/2017 – 08/2018

Allstate Insurance, *Data Scientist Intern*, Summer 2017

Google Summer of Code, Summer 2016

NASA Langley Area Research Center, *Visiting Research Scientist*, Summer 2014

Capital One, *Statistician Intern*, Summer 2013

State Farm Life Insurance Company, *Actuarial Analyst*, 2009–2011

Education

Ph.D. Mathematics, University of Illinois at Chicago, Advisor: Dr. Ryan Martin, 12/2017

M.S. Statistics, Northern Illinois University, 2013

B.S. Actuarial Science, Illinois State University, 2009

Peer-reviewed Publications

Statistics Journals

N. Syring and R. Martin. Gibbs posterior concentration rates under sub-exponential type losses. (2022) **Bernoulli**. Forthcoming. https://arxiv.org/pdf/2012.04505.pdf
https://www.bernoullisociety.org/index.php/publications/bernoulli-journal/bernoulli-journal-papers

N. Syring. Robust posterior inference for Youden's index cutoff. (2021). **Communications in Statistics - Theory and Methods**, 1-16. https://doi.org/10.1080/03610926.2021.1969409.

N. Syring and R. Martin. Robust and Rate-Optimal Gibbs Posterior Inference on the Boundary of a Noisy Image. (2020). **Annals of Statistics.** 48(3):1498-1513. https://doi.org/10.1214/19-AOS1856

N. Syring, L. Hong, and R. Martin. Gibbs Posterior Inference on Value-at-Risk. **Scandinavian Actuarial Journal.** (2019). https://doi.org/10.1080/03461238.2019.1573754.

N. Syring and R. Martin. Calibrating General Posterior Credible Regions. **Biometrika.** (2018). https://doi.org/10.1093/biomet/asy054.

N. Syring and R. Martin. Gibbs Posterior Inference on the Minimum Clinically Important Difference. **Journal of Statistical Planning and Inference.** 187 (2017): 67-77. `http://dx.doi.org/10.1016/j.jspi.2017.03.001`.

C. Liu, R. Martin, and N. Syring. Efficient Simulation from a Gamma Distribution with Small Shape Parameter. **Computational Statistics** 32, 4 (2017): 1767-1775. `https://doi.org/10.1007/s00180-016-0692-0`.

N. Syring and M. Li. BayesBD: An R Package for Bayesian Inference on Image Boundaries. **R Journal.** 9, 2 (2017): 149-162. `https://journal.r-project.org/archive/2017/RJ-2017-052/index.html`.

Conference Proceedings

N. Syring and R. Martin. Stochastic optimization for numerical evaluation of imprecise probabilities. (2021). Proceedings of the Twelveth International Symposium on Imprecise Probability: Theories and Applications, in **Proceedings of Machine Learning Research**. 147. `https://proceedings.mlr.press/v147/syring21a.html`.

R. Martin and N. Syring. Validity-preservation properties of rules for combining inferential models. (2019) Proceedings of the Eleventh International Symposium on Imprecise Probabilities: Theories and Applications, in **Proceedings of Machine Learning Research**. 103:286-294. `http://proceedings.mlr.press/v103/martin19a/martin19a.pdf`.

Book Chapters

R. Martin and N. Syring. Direct Gibbs posterior inference on risk minimizers: construction, concentration, and calibration. (2022) **Handbook of Statistics**. Elsevier. `https://arxiv.org/pdf/2203.09381.pdf`.
`https://www.sciencedirect.com/science/article/abs/pii/S0169716122000189`.

In Review/Revision

N. Syring, F. Miguez, and J. Niemi. Valid predictions of group-level random effects. `https://arxiv.org/abs/2202.01848`.

In Preparation

N. Syring. Valid inference and prediction in Gaussian measurement-error models.

Teaching

@ Iowa State University

STAT 500: Statistical Methods I (2 times)
STAT 342: Introduction to the Theory of Probability and Statistics II (2 times)
STAT 588: Statistical Theory for Research Workers, Instructor (2 times)

@ Washington University St. Louis

MATH3200: Elementary to Intermediate Statistics, Instructor (5 times)
MATH475: Statistical Computation, Instructor

@ North Carolina State University

ST311: Introduction to Statistics, Instructor

@ University of Illinois at Chicago

STAT381: Applied Statistical Methods I, Instructor

Advising

@ Iowa State University

PhD Thesis Committee Member for Eryn Blagg, Statistics

PoS Committee Member for Zhengqiang Ni, Genetics and Genomics Graduate Program, Animal Science

PoS Committee Member for Md Azizul Islam, Apparel, Events, and Hospitality Management Graduate Program

PoS Committee Member for Ibne Farabi Shihab, Computer Science

CyBound Summer Program - supported by C-CHANGE: Jarad Niemi and I co-advised Roger Castillo Ramos on his Summer project to visualize agricultural data (e.g., yield, nitrogen emissions) using R Shiny.

@ Washington University St. Louis

MATH500: Independent Work, Summer 2019

Conferences and Seminar Talks

BayesComp 2023, Invited Talk
TBA
March 2023, Finland

International Society of Bayesian Analysis Meetings, Invited Talk
Gibbs posterior distributions: What are they? Why do we need them? And, what's next?
July 2022, Montreal

Conference on Applied Statistics in Agriculture and Natural Resources, Contributed Talk
Valid predictions of group-level random effects
May 2022, Utah State University/remote

CMStatistics 2021, Invited Talk
Asymptotic concentration of Gibbs posterior distributions
December 2021, London/remote

SIAM CSE21 Invited Talk
Frequentist calibration of posterior distributions
March 2021

Bayesian, Fiducial, Frequentist Workshops, Invited Talk
Advances by Next-Generation BFFs: Gibbs Posterior Distributions
February 2021

WHOA-PSI 4 Poster Presentation
Treatment Selection Problems
WUSTL–08/2019

ISIPTA 2019 Contributed Talk
Validity-preservation properties of rules for combining inferential models
Uni Ghent–07/2019

Bayesian, Fiducial, and Frequentists (BFF 6) Poster Presentation
Gibbs Posterior Inference on Youden's Index cutoff
Duke–05/2019

Statistics Seminar
Inferential models in errors-in-variables models
WUSTL–11/2018

Joint Statistical Meetings Invited Poster Presentation
Inferential Models for Instrumental Variables
Baltimore–07/2017

Summer Research Conference
Image Boundary Detection via a Gibbs Model
IIT–05/2016

Undergraduate Mathematics Seminar
Misspecified Statistical Models: What happens when the model is wrong?
Wheaton College–11/2015

Statistics Seminar
Scaling the Gibbs posterior
University of Illinois at Chicago–09/2015

Statistics Seminar
On Bayesian inference without a model
University of Illinois at Chicago–11/2014

Professional Service

Manuscript Reviewer

Journal of Machine Learning Research

Scandinavian Journal of Statistics

Journal of the Royal Statistical Society, Series B (2 times)

Statistica Sinica

Journal of the American Statistical Association

Sankhya

Bayesian Analysis

Journal of Statistical Planning and Inference

SIAM Journal of Uncertainty Quantification

Technometrics

Statistics and its Interface

Department Service

STAT-ers Advisor (2 times) 2020-2022

Honors and Awards Committee Member (2 times) 2020-2022

Graduate Curriculum and Exam Review Committee 2022

Tenure-eligible Assistant Professor Search Committee 2022

Exam Writing, MS Methods I 2020, PhD Methods II 2022

Exam Committee 2021