

Luna Fazio

Dortmund, Germany

+49 177 1472345 | bmfaziol@gmail.com | github.com/lunafazio

Education

TU Dortmund, Department of Statistics

Dortmund, Germany

PH.D. IN STATISTICS

2022 - Present

- Supervisor: Prof. Dr. Paul-Christian Bürkner
- Research project: Bayesian distributional latent variable models

Pontificia Universidad Católica del Perú

Lima, Peru

M.Sc. IN STATISTICS

2017 - 2021

- Supervisor: Prof. Dr. Giancarlo Sal Y Rosas
- Thesis: Endpoint-inflated beta-binomial regression for correlated count data.

Universidad Peruana Cayetano Heredia

Lima, Peru

B.Sc. IN BIOLOGY

2010 - 2015

Work experience

Private client

Remote

STATISTICAL CONSULTANT

2025 - Present

- Development of guidelines and software for prior elicitation in models of large scale interventions for child development

TU Dortmund, Department of Statistics

Dortmund, Germany

RESEARCH ASSOCIATE

2023 - Present

- Supervised by Prof. Dr. Paul Bürkner (DFG Project 497785967)
- Research on specification of complex latent variable models with applications in cognitive modeling

University of Stuttgart

Stuttgart, Germany

RESEARCH ASSOCIATE

2022 - 2023

- Supervised by Prof. Dr. Paul Bürkner (DFG Project 497785967)
- Research on extensions to the Structural Equation Modeling framework

Bernard van Leer Foundation

Lima, Peru

CONSULTANT

2021 - 2022

- Design and development of a web-based application for monitoring of public health interventions
- Developed Shiny and Tableau-based dashboards for data processing and visualization

Deutsche Gesellschaft für Internationale Zusammenarbeit – Peru

Lima, Peru

CONSULTANT

2020

- Developed Tableau dashboards to monitor key indicators of municipality-level performance

Delivery Unit – Presidencia del Consejo de Ministros

Lima, Peru

ANALYST

2019 - 2020

- Monitoring of key government interventions through survey and administrative data
- Technical assistance for the procurement of impact evaluation and data collection services.

UNICEF

Lima, Peru

CONSULTANT

2018 - 2019

- Conducted a literature review on measurement of adolescent well-being
- Assisted in the design and estimation of an index for adolescent well-being

Ministerio de Salud

Lima, Peru

ANALYST

2016 - 2018

- Design and measurement of health indicators for various national interventions

Centro de Investigación Interdisciplinaria en Sexualidad, Sida y Sociedad

Lima, Peru

RESEARCH ASSISTANT

2015 - 2016

- Monitoring and analysis of longitudinal studies
- Provided statistical support to fellow researchers

- Data collection tasks involving healthcare personnel and patients
- Provided training and monitoring of field data collection via mobile apps
- Data processing and statistical analysis

Institute for Molecular Pathology

Vienna, Austria

- Collection and analysis of two-photon microscope data on synapse dynamics in mouse cortex

Publications

Fazio L, Scholz M, Aguilar JE, Bürkner PC. *Primed Priors for Simulation-Based Validation of Bayesian Models*. In review (available as arXiv preprint), 2025.

Fazio L, Bürkner PC. *Gaussian Distributional Structural Equation Models: A framework for modeling latent heteroscedasticity*. Multivariate Behavioral Research, 2025.

Allan-Blitz LT, Konda KA, Vargas SK, Wang X, Segura ER, **Fazio L**, Calvo GM, Caceres CF, Klausner JD. *The Development of an Online Risk Calculator for the Prediction of Future Syphilis among a High-Risk Cohort of Men Who Have Sex with Men and Transgender Women in Lima, Peru*. Sexual Health, 2018.

García PJ, **Fazio L**, Bayer AM, Lizarraga AG, Chiappe M, La Rosa S, Lazo M, López L, Valderrama M, Cárcamo CP. *Sexual health knowledge and practices and STI/HIV prevalence among long-distance truck drivers in Peru*. SAGE Open Medicine, 2017.

Egoavil MS, Condor DF, Pinazo-Vidal MA, Quezada JM, **Fazio L**, Bueno JC, Peña LE, Farfán J, De la Puente JG, Arce C, Malpartida B, Arostegui A, Pérez-Lu JE. *Qualitative Study for the Development of a Telemedicine System in Palliative Care*. Palliative Medicine and Hospice Care, 2017.

Events and workshops

Replication Games, Berlin 2025.

Participated as replicator.

Alumni-Verein Dortmunder Statistikerinnen und Statistiker e.V., Dortmund 2025.

Workshop: *Bayesian Data Analysis with brms* (instructor with Javier Aguilar)

DAGStat, Berlin 2025.

Workshop: *Bayesian Data Analysis with brms* (instructor with Javier Aguilar)

Bayesian Methods for the Social Sciences II, Amsterdam 2024.

Poster: *Categories without enough observations? Merge levels at inference time with Bayes!*

ISBA World Meeting, Venice 2024.

Poster: *This Underrated Technique Might Be The Future of Structural Equation Models*

10th IAS Conference on HIV Science, Mexico DF 2019.

Contributed to poster: *Understanding gay couples: a new vision for HIV prevention in Peru*

VI Latin American Meeting on Bayesian Statistics, Lima 2019.

Poster: *Approaches to Model Specification for Regression Analysis with Correlated, Endpoint-Inflated Bounded Count Data*

As attendee: Bayes@Lund 2024, Introduction to Julia for High Performance Computing 2023, Workshop on Informative Prior Elicitation Using Historical Data (ISBA 2024), BayesComp 2023.

Review activity

AStA Advances in Statistical Analysis. 2025: One review.

Psychological Science. 2025: One review as statistical expert.

Teaching

TU Dortmund, Department of Statistics (Course instructor, 2023 - 2025)

Multilevel Modeling Seminar, Introduction to Julia, Intensive Statistics Course

Pontificia Universidad Católica del Perú (Teaching assistant, 2017)

Introduction to Statistics, Advanced Regression Techniques

Universidad Peruana Cayetano Heredia (Teaching assistant, 2015 - 2016)

Biostatistics, Epidemiology, Thesis Seminar

Supervision

Forough Asgari, student assistant. Work on extensions of the R2D2 prior for non-gaussian likelihoods.

Joint supervision with Javier Aguilar.

Timo Stenz, student assistant. Work on extensions of Structural Equation Models. Developed support for variational inference in the **SBC** R package.

Skills

Programming	R (tidyverse, targets, brms, shiny), Julia (Tidier, Turing), Python (NumPy, BayesFlow)
Statistics	Hierarchical models, latent variables, Bayesian inference, prior specification, simulation studies
Tools	SQL, git/GitHub, \LaTeX , SLURM (HPC), Tableau, PowerBI
Languages	Spanish (native), English (fluent), German (basic)