Gitte Kremling

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EDUCATION

Ph.D. in Mathematics Aug 2024
University of Wisconsin-Milwaukee, USA
Thesis: "Bootstrap-based goodness-of-fit test for parametric families of conditional distributions"
Supervised by: Gerhard Dikta and Richard Stockbridge
Graduated with highest possible GPA (4.0)

M.Sc. in Applied Mathematics & Computer Science (formerly Technomathematics) Aug 2019
FH Aachen University of Applied Sciences, Germany
Thesis: "Convergence analysis for multi-level spectral deferred corrections"
Graduated with highest possible GPA (1.0)

B.Sc. in Applied Mathematics & Computer Science (formerly Scientific Programming) Aug 2017
FH Aachen University of Applied Sciences, Germany
Graduated with highest possible GPA (1.0)

ACADEMIC EXPERIENCE

Postdoctoral Researcher Apr 2025 – now
University of Hamburg, Germany
Department of Mathematics, Principal Investigator: Johannes Lederer

Research Associate Sep 2022 – Mar 2025
FH Aachen University of Applied Sciences, Germany
Department of Medical Engineering and Technomathematics

Teaching Assistant Jan 2020 – Jul 2022
University of Wisconsin-Milwaukee, USA
Department of Mathematical Sciences

Research Associate Sep 2017 - Dec 2019
Forschungszentrum Jülich GmbH, Germany
Jülich Supercomputing Center, Division Mathematics and Education

Professional Trainee (Mathematical-Technical Software Developer) Sep 2014 - Aug 2017
Forschungszentrum Jülich GmbH, Germany
Jülich Supercomputing Center, Division Communication Systems

HONORS AND AWARDS

Badge of Honor (M.Sc.) Aug 2019
FH Aachen University of Applied Sciences, Germany
Awarded to the best 5% of graduates

Deutschlandstipendium Sep 2018 - Aug 2019
FH Aachen University of Applied Sciences, Germany
Provides financial and non-material support to high-achieving and committed students

Badge of Honor (B.Sc.) Aug 2017
FH Aachen University of Applied Sciences, Germany
Awarded to the best 5% of graduates

PUBLICATIONS AND PREPRINTS

Kremling, G. and Dikta, G. (2025, under review). Asymptotic properties of the MLE in distributional regression under random censoring. Submitted for publication. arXiv:2503.14311

Kremling, G. and Dikta, G. (2024, under review). Bootstrap-based goodness-of-fit test for parametric families of conditional distributions. Submitted for publication. arXiv:2409.20262

Kremling, G. and Speck, R. (2021). Convergence of multilevel spectral deferred corrections. *Communications in Applied Mathematics and Computational Science, 16(2), 227-265*, doi:10.2140/camcos.2021.16.227

PUBLISHED SOFTWARE

Kremling, G. (2024). gofreg: Bootstrap-Based Goodness-of-Fit Tests for Parametric Regression, R package version 1.0.0. https://CRAN.R-project.org/package=gofreg.

PRESENTATIONS

Talk at German Probability and Statistics Days, Dresden, Germany — Mar 2025
"Bootstrap-based goodness-of-fit test for parametric families of conditional distributions"

Talk at Joint Statistical Meetings, Portland, OR, USA — Aug 2024
"Bootstrap-based goodness-of-fit test for parametric regression based on conditional distribution families"

Talk at European Meeting of Statisticians, Warsaw, Poland — Jul 2023
"Bootstrap-based goodness-of-fit test for parametric generalized linear models under random censorship"

Poster at German Probability and Statistics Days, Essen, Germany — Mar 2023
"Simulation study of a MLE and bootstrap-based goodness-of-fit test for parametric generalized linear models under random censorship"

Talks at Graduate Student Colloquium, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, USA
"An Introduction to the Bootstrap Method" — Apr 2022
"Deep neural networks as kernel machines: An approach to explain the mysteriously superb performance of ANNs" — Dec 2021

Talk at International Conference on Scientific Computing and Differential Equations, Innsbruck, Austria — Jul 2019
"Convergence of multilevel spectral deferred corrections"

TEACHING EXPERIENCE

As Instructor

Statistical Modeling (graduate course), FH Aachen	Fall 2024
Algebra (Upward Bound Math & Science program), UW-Milwaukee	Summer 2022
Precalculus (Upward Bound Math & Science program), UW-Milwaukee	Summer 2022
Calculus and Analytic Geometry I (undergraduate course), UW-Milwaukee	Spring 2022
Algebraic Literacy I and II (undergraduate course), UW-Milwaukee	Fall 2021
Precalculus (undergraduate course), UW-Milwaukee	Spring 2021
Introduction to College Algebra (undergraduate course), UW-Milwaukee	Fall 2020

As Teaching Assistant

Functional Analysis (graduate course), FH Aachen	Fall 2024
Numerical Methods in Machine Learning(graduate course), FH Aachen	Fall 2024
Bootstrap Methods in Statistics(graduate course), FH Aachen	Spring 2024
Statistical Modeling(graduate course), FH Aachen	Fall 2023
Time Series Analysis and Prognosis(graduate course), FH Aachen	Fall 2023
Numerical Analysis (undergraduate course), FH Aachen	Spring 2019 & 2023
Probability Theory (undergraduate course), FH Aachen	Fall 2019

WORKSHOPS AND TRAINING

Mathematical Problems in Industry Workshop, Worcester, MA, USA — Jun 2022
Collaborated with a team to develop innovative approaches for regression analysis of sparse and noisy data

Graduate Student Mathematical Modeling Camp, Newark, DE, USA — Jun 2022
Contributed to the development of a model for the dynamics of a snowflake in a cloud microphysics framework

PROFESSIONAL MEMBERSHIPS

American Statistical Association
Caucus for Women in Statistics and Data Science
DMV Fachgruppe Stochastik
Econometric Society
Institute of Mathematical Statistics

REFERENCES

Gerhard Dikta, PhD Co-Advisor
FH Aachen University of Applied Sciences, Germany
Homepage dikta@fh-aachen.de

Richard Stockbridge, PhD Co-Advisor
University of Wisconsin-Milwaukee, USA
Homepage stockbri@uwm.edu

David Spade, Doctoral Committee Member
University of Wisconsin-Milwaukee, USA
Homepage spade@uwm.edu

Hayley Nathan, Course Coordinator
University of Wisconsin-Milwaukee, USA
Homepage henathan@uwm.edu

Robert Speck, Master's Thesis Advisor
Forschungszentrum Jülich, Germany
Homepage r.speck@fz-juelich.de