

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

M.Sc. in Technomathematics

Aug 2019

FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY

B.Sc. in Scientific Programming

Aug 2017

FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY

CURRENT POSITION

Research Associate

Sep 2022 – now

FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY

Department of Medical Engineering and Technomathematics

- Establishing further theoretical results for the goodness-of-fit test considered in the dissertation such as a rigorous analysis of the variance of the involved process
- Enhancing the R-package *gofreg* (see “Published Software”) to streamline the application of various bootstrap-based goodness-of-fit tests for regression models
- Engaging with foundational literature in deep learning theory to broaden research expertise and identify potential areas for future collaboration and study
- Collaborating on interdisciplinary research with the Institute of Climate and Energy Systems at Forschungszentrum Jülich, applying stochastic optimal control theory to model optimal strategies for energy transition
- Instructing and mentoring by teaching classes, leading discussion sessions, and supervising graduate students in advanced topics

ACADEMIC EXPERIENCE

Teaching Assistant

Jan 2020 – Jul 2022

UNIVERSITY OF WISCONSIN-MILWAUKEE, USA

Department of Mathematics

Research Associate

Sep 2017 - Dec 2019

FORSCHUNGSZENTRUM JÜLICH GMBH, GERMANY

Jülich Supercomputing Center, Division Mathematics and Education

Professional Trainee

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. (2024, under review). Bootstrap-based goodness-of-fit test for parametric families of conditional distributions. Submitted to *Econometrica: Journal of the Econometric Society*. [arXiv:2409.20262](https://arxiv.org/abs/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](https://doi.org/10.2140/camcos.2021.16.227)

CONFERENCE PRESENTATIONS

Kremling, G., Dikta, G. and Stockbridge, R. (2024). Bootstrap-based goodness-of-fit test for parametric regression based on conditional distribution families. Talk: Joint Statistical Meetings, Portland, OR, USA.

Kremling, G., Dikta, G. and Stockbridge, R. (2023). Bootstrap-based goodness-of-fit test for parametric generalized linear models under random censorship. Talk: European Meeting of Statisticians, Warsaw, Poland.

Kremling, G., Dikta, G. and Stockbridge, R. (2023). Simulation study of a MLE and bootstrap-based goodness-of-fit test for parametric generalized linear models under random censorship. Poster: German Probability and Statistics Days, Essen, Germany.

Kremling, G. and Speck, R. (2019). Convergence of multilevel spectral deferred corrections. Talk: International Conference on Scientific Computing and Differential Equations, Innsbruck, Austria.

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>.

TEACHING

Statistical Modeling, graduate course (Instructor)

Fall 2024

FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY

Functional Analysis (Teaching assistant)

Fall 2024

FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY

Numerical Methods in Machine Learning, graduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	Fall 2024
Bootstrap Methods in Statistics, graduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	Spring 2024
Statistical Modeling, graduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	Fall 2023
Time Series Analysis and Prognosis, graduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	Fall 2023
Numerical Analysis, undergraduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	Spring 2023
MATH 231: Calculus and Analytic Geometry I (Instructor) UNIVERSITY OF WISCONSIN-MILWAUKEE, USA	Spring 2022
MATH 98/108: Algebraic Literacy I and II (Instructor) UNIVERSITY OF WISCONSIN-MILWAUKEE, USA	Fall 2021
MATH 115: Precalculus (Instructor) UNIVERSITY OF WISCONSIN-MILWAUKEE, USA	Spring 2021
MATH 105: Introduction to College Algebra (Instructor) UNIVERSITY OF WISCONSIN-MILWAUKEE, USA	Fall 2020
MATH 321: Vector Analysis (Grader) UNIVERSITY OF WISCONSIN-MILWAUKEE, USA	Spring 2020
Probability Theory, undergraduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY, GERMANY	Fall 2019
Numerical Analysis, undergraduate course (Teaching assistant) FH AACHEN UNIVERSITY OF APPLIED SCIENCES, GERMANY, GERMANY	Spring 2019

PROFESSIONAL DEVELOPMENT

Mathematical Problems in Industry Workshop WORCESTER, MA, USA	Jun 2022
Graduate Student Mathematical Modeling Camp NEWARK, DE, USA	Jun 2022

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, Professor

Department of Medical Engineering and Technomathematics

FH Aachen University of Applied Sciences, Germany

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Richard Stockbridge, Distinguished Professor

Department of Mathematics

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Hayley Nathan, Course Coordinator

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