Thomas Nagler

Curriculum vitae

Department of Mathematics
Technische Universität München
Boltzmannstraße 3
85748 Garching b. München, Germany
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Research

Dependence modeling

Copulas, vine copulas, dependence in functional data, conditional dependence models

Non- and semiparametric inference

Kernel and spline methods, density estimation, dimension reduction, asymptotic theory

Statistical computing and software

Computationally intensive methods, high-performance scientific computing, development of statistical software.

Education

2014 – present **Doctoral studies in mathematical statistics**, *TU München*.
- Supervisor: Prof. Claudia Czado, Ph.D.

2012 – 2014 **MSc Mathematical Finance and Actuarial Sciences**, *TU München*.
- Passed with high distinction
- Exchange semester at KU Leuven, Belgium
- Master's Thesis: "Kernel Methods for Vine Copula Estimation"

2009 – 2012 **BSc Mathematics**, *TU München*.
- Bachelor's thesis: "A Global Games Model for Currency Crises"

Teaching experience

Winter 2016 Student seminar "Mathematical Introduction to Neural Networks", TU München

Winter 2015 Student seminar "Nonparametric statistical methods", TU München

2014 – present Supervision of Master's theses (5 finished, 0 current)

Administrative experience

Jun 2015 Organizer of the workshop "Nonparametric Copula Day", TU München

Additional qualifications

Languages German (mother tongue), English (fluent), Dutch (basics)

Programming R (expert), C++ (solid), SAS, MATLAB, Python (basics)

Research visits

Nov 2015 with **Irène Gijbels** and **Gerda Claeskens**

Department of Mathematics and Faculty of Economics and Business, KU Leuven, Leuven

Publications

Journal articles

Nagler, T. and Czado, C. (2016). Evading the curse of dimensionality in nonparametric density estimation with simplified vine copulas. *Journal of Multivariate Analysis*, 151:69 – 89.

Preprints

Nagler, T. (2016). kdecopula: An R Package for the Kernel Estimation of Copula Densities. *arXiv:1603.04229 [stat.CO]*.

Nagler, T., Schellhase, C., and Czado, C. (2017). Nonparametric estimation of simplified vine copula models: comparison of methods. *arXiv:1701.00845 [stat.ME]*.

Vatter, T. and Nagler, T. (2016). Generalized additive models for pair-copula constructions. *arXiv:1608.01593 [stat.ME]*.

Theses

Nagler, T. (2014). Kernel methods for vine copula estimation. *Master's thesis, Technical University of Munich*.

Software

Nagler, T. (2016). *kdecopula: Kernel Smoothing for Bivariate Copula Densities*. R package version 0.8.0, url: `https://github.com/tnagler/kdecopula`.

Schepsmeier, U., Stoeber, J., Brechmann, E. C., Graeler, B., Nagler, T., and Erhardt, T. (2017). *VineCopula: Statistical Inference of Vine Copulas*. R package version 2.1.1, url: `https://github.com/tnagler/VineCopula`.

Talks

Sep 2016 *VineCopula: An R package (not just) for inference of vine copula models*, Salzburg Workshop on Dependence Models & Copulas, Salzburg

Jul 2016 *Evading the curse of dimensionality in nonparametric density estimation with simplified vine copulas*, Institutskolloquium des Instituts fÃijr Statistik, Ludwig-Maximilians-Universität München, Munich

May 2016 *Generalized additive models for pair-copula constructions*, Dependence Modeling in Finance, Insurance and Environmental Science, Munich

Mar 2016 *Evading the curse of dimensionality in nonparametric density estimation with simplified vines*, 12th German Probability and Statistics Days 2016, Ruhr-Universität Bochum, Bochum

Dec 2015 *Evading the curse of dimensionality in nonparametric density estimation with simplified vines*, 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of London, London

Nov 2015 *Evading the curse of dimensionality in nonparametric density estimation with simplified vines*, CenStat Seminar, Universiteit Hasselt, Hasselt

Jun 2015 *Evading the curse of dimensionality in nonparametric density estimation with simplified vines*, Nonparametric Copula Day, Technische Universität München, Munich