



Lothar-Collatz-Kolloquium für Angewandte Mathematik

Donnerstag, den 17. Oktober 2024, um 17:15 Uhr, im Hörsaal 5

Prof. Dr. Toni Karvonen*

(Lappeenranta–Lahti University of Technology LUT, Lappeenranta, Finland)

"Smoothness estimation with kernels"

Zusammenfassung/Abstract:

Gaussian process regression provides both predictions of a latent function at new input locations and associated quantification of predictive uncertainty. How useful the uncertainty quantification is depends on the relation between the latent function and the Gaussian process model. The model is specified by a positive-definite kernel whose smoothness determines the smoothness of the model. In this talk I discuss smoothness estimation via maximum likelihood, which is linked to notions from kernel-based approximation and information-based complexity. I present some old and new consistency results for the maximum likelihood estimator, highlight the effect stationarity assumptions have, and draw connections to results in Bayesian nonparametrics.

Kontakt:

Prof. Dr. Armin Iske

Angewandte Mathematik

Raum 136, Tel.: 040 42838-5264

E-Mail: armin.iske@uni-hamburg.de

Web: <https://www.math.uni-hamburg.de/forschung/bereiche/am/numerische-approximation/personen/iske-armin.html>

*** Prof. Dr. Toni Karvonen**

Computational Engineering, LUT School of Engineering Sciences

Yliopistonkatu 34, 53850 Lappeenranta, Finland

E-Mail: toni.karvonen@lut.fi

Web: <https://www.lut.fi/en/profiles/toni-karvonen>

