

Einladung zum ZeSOB Kolloquium

Am Montag, **10. Februar 2020**, ab **15.00h (s. t.)** spricht Herr

Prof. Dr. Matthias Franz

(HTWG Konstanz - University of Applied Sciences, Faculty of Computer Science)

über

Implicit Volterra and Wiener Series with Applications in Higher-Order Image Analysis

The computation of classical higher-order statistics such as higher-order moments or spectra is difficult for images due to the huge number of terms to be estimated and interpreted. We propose an alternative approach in which multiplicative pixel interactions are described by a series of Volterra or Wiener functionals. We show that these series can be represented implicitly as elements of a reproducing kernel Hilbert space by using polynomial kernels. The estimation complexity of the implicit representation is linear in the input dimensionality and independent of the degree of nonlinearity. Experiments show performance advantages in terms of convergence, interpretability, and system sizes that can be handled. In images, we find that structures such as lines or corners can be predicted correctly, and that pixel interactions up to the order of five play an important role..

Der Vortrag findet statt am Montag, 10. Februar 2020, ab 15.00 Uhr (s. t.) im Mehrzweckhochhaus (MZH) der Universität Bremen, Bibliothekstraße 5, 28359 Bremen, in Raum MZH 6190 (Ebene 6).

Alle Interessierten sind herzlich willkommen!

(Einladungsvorschlag von Prof. Dr. Thorsten Dickhaus)