

## Graduiertenkolloquium Angewandte Informatik

### Training Visual Concept Classifiers

M. Sc. Christian Hentschel

Hasso-Plattner-Institut für Softwaresystemtechnik, Potsdam

Abstract:

Visual Concept Detection describes the process of automatically classifying images and video based on the depicted visual content. This talk will start by comparing different approaches for visual concept detection, namely Bag-of-Visual-Words and Deep Convolutional Neural Networks (CNN). Bag-of-Visual-Words methods represented the de facto standard until CNNs emerged, backed by highly parallel hardware as well as large training datasets.

The talk will present the impact of the available amount of training data on the classification performance as achieved by the individual approaches. Furthermore, techniques for model visualization will be presented. Non-linear models suffer from the lack of interpretability. The presented visualization methods help to qualitatively compare visual concept models by highlighting image regions considered important for the final classification decision.

Finally, the talk will address the problem of leveraging social photo communities in order to increase the amount of available training data without additional manual labeling efforts. A social community language model will be presented as well as an outlook for multi-modal retrieval.

Termin: Freitag, 12. Januar 2018, 14.00 Uhr

Ort: Kaiserstr. 89, 76133 Karlsruhe  
Kollegiengebäude am Kronenplatz (Geb. 05.20), 1. OG, Raum 1C-04  
(Hinweise für Besucher: [www.aifb.kit.edu/web/Kontakt](http://www.aifb.kit.edu/web/Kontakt))

Veranstalter: Institut AIFB, Forschungsgruppe Information Service Engineering

Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

A. Oberweis, H. Sack (Org.), H. Schmeck, Y. Sure-Vetter, J. M. Zöllner