IST AUSTRIA
Institute of Science and Technology

Thesis defense

Alex Kolesnikov (Lampert group): Weakly-Supervised Segmentation and Unsupervised Modeling of Natural Images

Alexander Kolesnikov (IST Austria)

In this thesis we focus on the alternative way of tackling the aforementioned issue.We concentrate on methods, which make use of weakly-labeled or even unlabeled data. Specifically, the first half of the thesis is dedicated to the semantic image segmentation task. We develop a technique, which achieves competitive segmentation performance and only requires annotations in a form of global image-level labels instead of dense segmentation masks. Subsequently, we present a new methodology, which further improves segmentation performance by leveraging tiny additional feedback from a human annotator. By using our methods practitioners can greatly reduce the amount of data annotation effort, which is required to learn modern image segmentation models.In the second half of the thesis we focus on methods for learning from unlabeled visual data. We study a family of autoregressive models for modeling structure of natural images and discuss potential applications of these models. Moreover, we conduct in-depth study of one of these applications, where we develop the state-of-the-art model for the probabilistic image colorization task.

Monday, February 26, 2018 04:00pm - 05:00pm

IST Austria Campus Mondi Seminar Room 2, Central Building

This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: http://ist.ac.at/fileadmin/user_upload/pdfs/IST_shuttle_bus.pdf The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.