Am Dienstag, 16.08.2016, 16 hct, berichtet Herr Anton Böhm über die Ergebnisse seiner Masterarbeit:

**Simultaneous Multi-instance Cell Segmentation and Tracking Using Deep-learning Methods**

In this thesis, we jointly solve two image processing problems: instance-aware segmentation and tracking of cells in biomedical images. We design a novel energy function that can be used to model both problems and optimize this in the deep-learning framework. After optimizing our energy function, the deep neural network (DNN) is able to separate the image into meaningful parts, like background and single cell instances. This allows to analyze individual cells within cell clusters. We extend our energy to cell tracking in time series which is important for cell development analysis.

In comparison to pure semantic segmentation approaches, our energy function cannot distinguish different classes, like foreground and background. To address this problem, we combine our proposed loss layer with a usual semantic-aware loss layer. Compared to an existing pure semantic segmentation method, our approach in most cases achieves superior performance.

Zeit: Tuesday, 16.08.2016, 16.00 hct
Ort: Geb. 052, SR 02-017

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