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Interactive semantic segmentation of aerial images with deep neural networks

Thesis defence Gaston Lenczner
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Abstract:
A key issue to scene understanding is semantic modeling, which consists, for example, in detecting objects in the image or in classifying areas of the image. More specifically, semantic segmentation aims at a classification of the image at the pixel level. It is currently addressed with deep neural networks. However, while powerful, these algorithms can still make errors.

We propose in this thesis to build up a collaboration between a deep neural network and a human in the loop to swiftly collect accurate segmentation maps of remote sensing images. In a nutshell, the user iteratively interacts with the network to correct its initially flawed predictions. Concretely, these interactions are annotations representing the semantic labels.
Keywords:
deep learning, semantic segmentation, interactive learning

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