



Incremental Learning in Semantic Segmentation

Fabio Cermelli [✉](#) (Ph.D. Student)

Semantic Segmentation is a crucial task in computer vision that consists of predicting for each pixel of an image its semantic meaning, i.e. pixel-wise classification. This task is crucial for many applications, ranging from self-driving cars to autonomous manufacturing. In the last years, thanks to the rise of deep neural networks and the availability of large-scale annotated datasets, the performance of this task has significantly improved. However, the segmentation models assume that the world is fixed and all the semantic categories are known before training. This assumption rarely holds in many practical applications: the world is constantly changing and new semantic categories will present over time. In this project, we investigate the Incremental Learning setting in Semantic Segmentation. The goal of this setting is to build a deep model able to incrementally learn new categories whilst preserving good performance on the old ones avoiding catastrophic forgetting.

Primary Host:  Barbara Caputo [✉](#) (Politecnico di Torino & Italian Institute of Technology)

Exchange Host:  Matthieu Cord [✉](#) (Sorbonne University)

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