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Towards High-Quality Panoptic Segmentation

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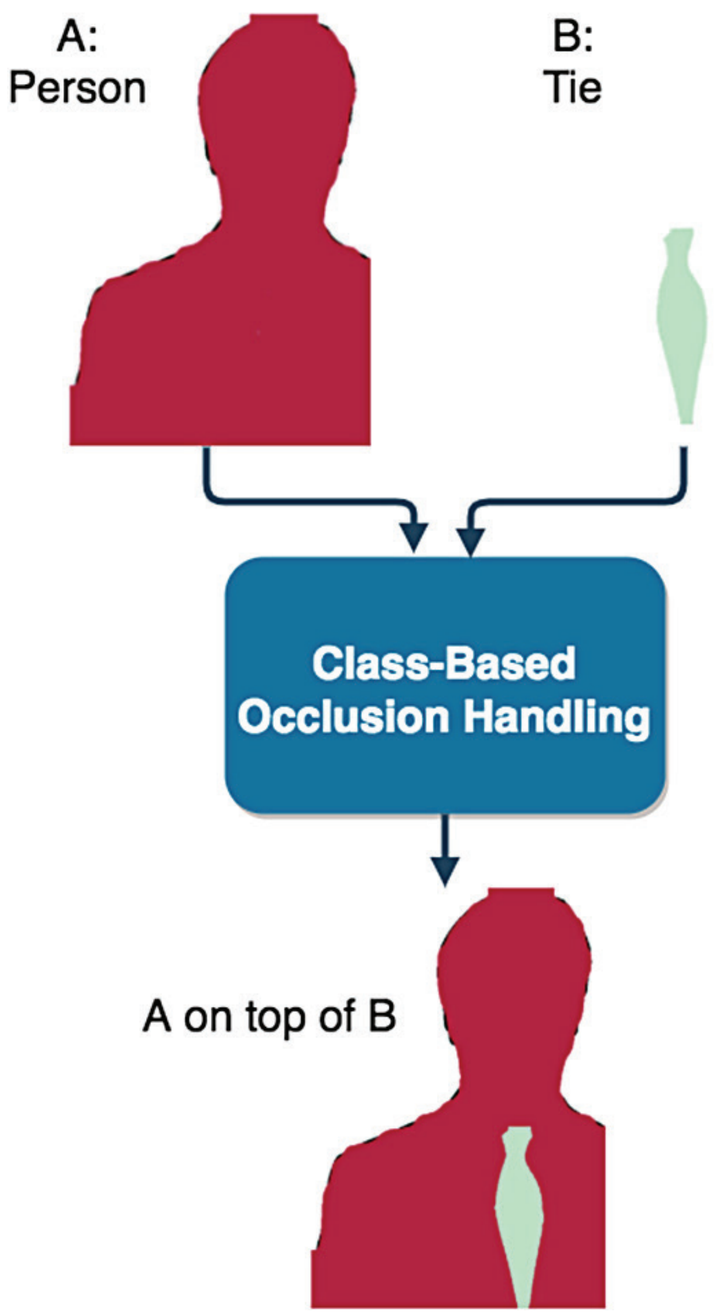
Panoptic segmentation is a recently proposed task that unifies both instance and semantic- segmentation. It provides a holistic solution to scene parsing by predicting instance labels and pixel-level classification. To improve the performance of panoptic segmentation system (measured by the metric PQ), we explore various methods. We demonstrate that the understanding of instance occlusion, the joint improvement by hybrid-task learning, and the study of panoptic segmentation metric all play crucial roles. We also participated in Joint COCO and Mapillary Workshop at ICCV 2019. On test-dev dataset split, our ensemble model achieved PQ=53.5, ranking the 1st place (without external dataset) and the 2nd place (overall).

Instance Occlusion Handling

Determining spatial relationship of foreground object pairs



Unknown Erasing

Removing small false positive regions in background