Supplementary Material for "Full-scale Selective Transformer for Semantic Segmentation"

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1 Visualizations

For better understanding our method, we visualize feature selection of query features. Examples from PASCAL Context [3], ADE20K [4], COCO-Stuff 10K [1], and Cityscapes[2] are shown in Figure 1, 2, 3, and 4, respectively. The i-th column shows the feature selection of query scale S_i . From these results, one can be seen that high-level semantic features tend to select low-level features with detailed spatial information, and vice versa.

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Fig. 1: Visualization of multi-scale feature selection on Cityscapes dataset. $q(S_i)$ indicates taking features from the stage or scale S_i as a query. The i-th column shows the feature selection of query scale S_i . The red polygon represents the selection area.



Fig. 2: Visualization of multi-scale feature selection on COCO-Stuff 10K dataset. $q(S_i)$ indicates taking features from the stage or scale S_i as a query. The i-th column shows the feature selection of query scale S_i . The red polygon represents the selection area.



Fig. 3: Visualization of multi-scale feature selection on ADE20K dataset. $q(S_i)$ indicates taking features from the stage or scale S_i as a query. The i-th column shows the feature selection of query scale S_i . The red polygon represents the selection area.



Fig. 4: Visualization of multi-scale feature selection on PASCAL Context dataset. $q(S_i)$ indicates taking features from the stage or scale S_i as a query. The i-th column shows the feature selection of query scale S_i . The red polygon represents the selection area.

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References

- Caesar, H., Uijlings, J., Ferrari, V.: Coco-stuff: Thing and stuff classes in context. In: Proceedings of the IEEE conference on computer vision and pattern recognition. pp. 1209–1218 (2018)
- Cordts, M., Omran, M., Ramos, S., Rehfeld, T., Enzweiler, M., Benenson, R., Franke, U., Roth, S., Schiele, B.: The cityscapes dataset for semantic urban scene understanding. In: Proceedings of the IEEE conference on computer vision and pattern recognition. pp. 3213–3223 (2016)
- Mottaghi, R., Chen, X., Liu, X., Cho, N.G., Lee, S.W., Fidler, S., Urtasun, R., Yuille, A.: The role of context for object detection and semantic segmentation in the wild. In: Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition. pp. 891–898 (2014)
- Zhou, B., Zhao, H., Puig, X., Xiao, T., Fidler, S., Barriuso, A., Torralba, A.: Semantic understanding of scenes through the ade20k dataset. International Journal of Computer Vision 127(3), 302–321 (2019)