

Supplemental Material for “Unsupervised Multi-View CNN for Salient View Selection of 3D Objects and Scenes”

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1 Understanding viewpoint saliency map

This supplemental material shows additional qualitative results for the salient view selection of various 3D objects and scenes. We also provide the viewpoint saliency maps of the corresponding 3D objects and scenes. A viewpoint saliency map suggests which viewpoints are salient and which are not for a specific 3D object or scene. Importantly, compared with a single salient view, it also facilitates us to judge whether the method for salient view selection works properly and generates appropriate results. For example, Fig. 1 shows the viewpoint saliency maps of two cupboards with very similar shapes. While the two objects have similar salient views, their corresponding viewpoint salient maps are very different as the cupboard on the left has symmetric front and back views but the one on the right does not. It can be seen that the viewpoint saliency map of each cupboard is consistent with the symmetry of the object and effectively exhibits the appropriateness with regard to the distribution of viewpoint saliency.

2 Additional qualitative results

In Figs. 2-5, we show the salient views and the viewpoint saliency maps of a variety of 100 3D objects and scenes produced by our method.

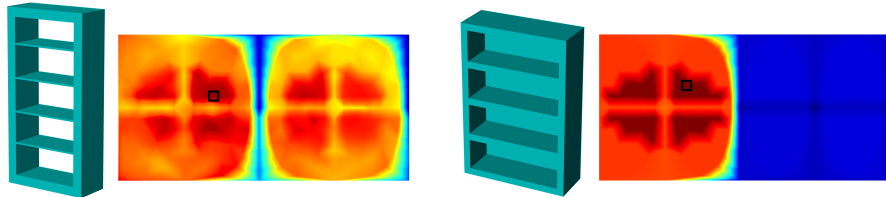


Fig. 1. The salient views and the estimated viewpoint saliency maps of two cupboards generated by our method where warm colours denote viewpoints of high saliency. Each black square in the viewpoint saliency map corresponds to the salient viewpoint selected by our method.

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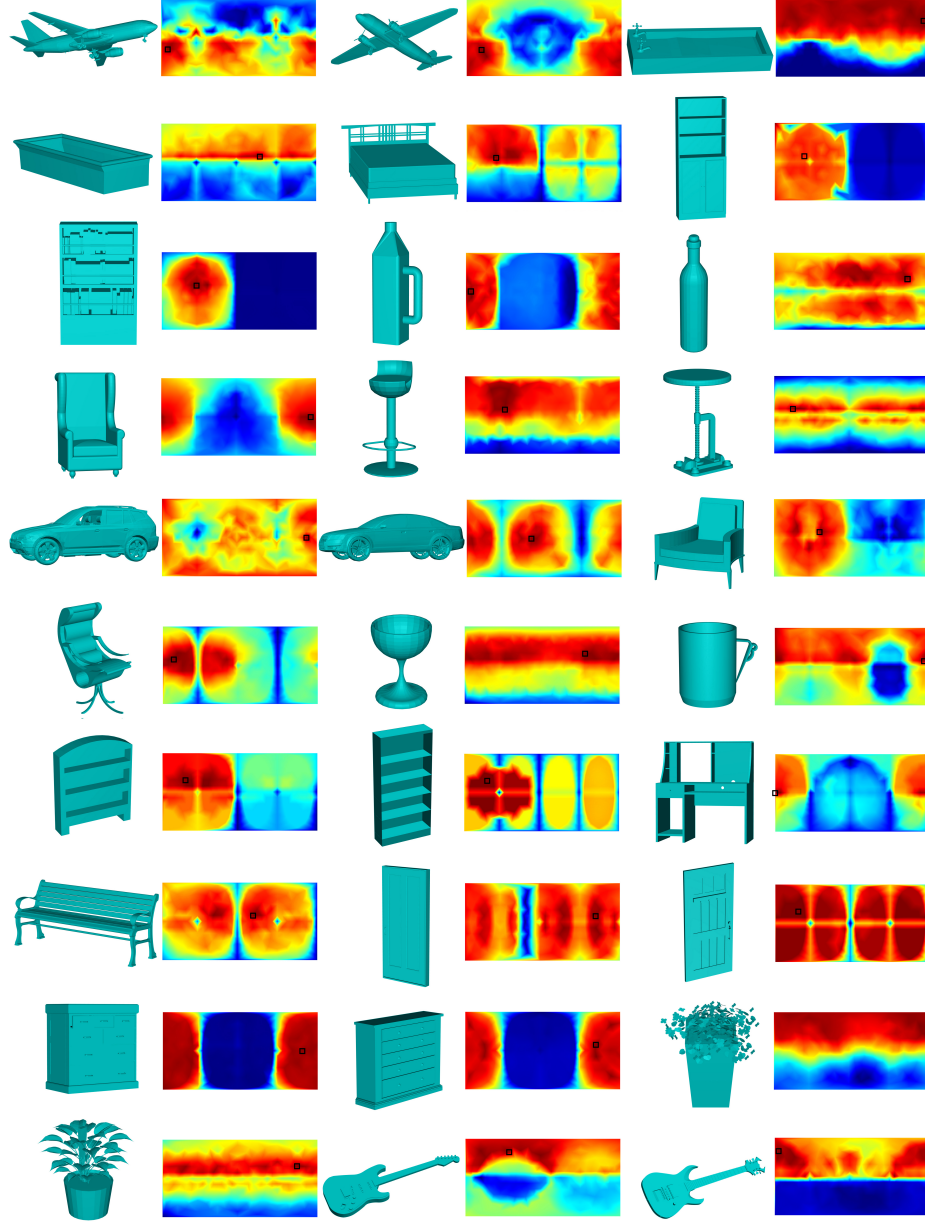


Fig. 2. Qualitative results of the salient views and the estimated viewpoint saliency maps of various 3D objects generated by our method.

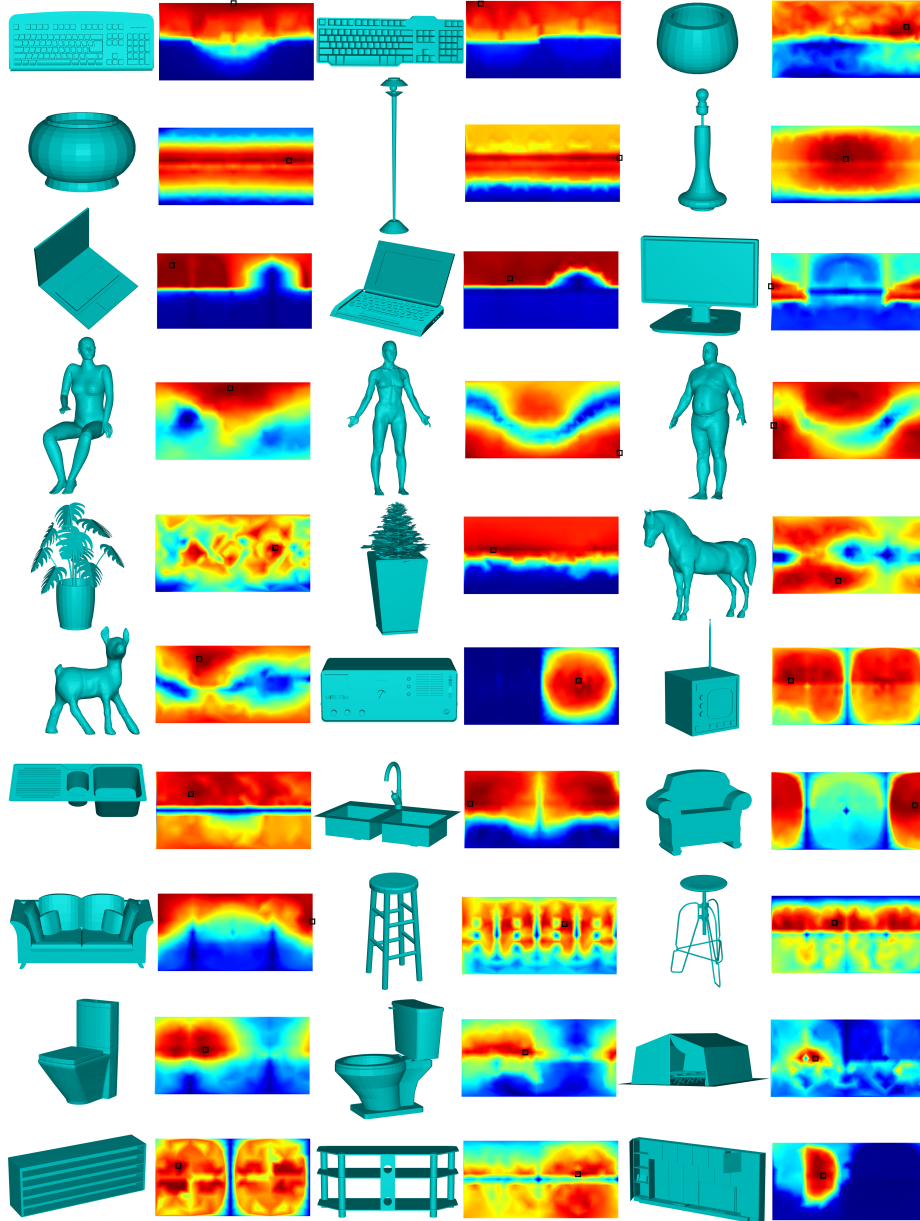


Fig. 3. Qualitative results of the salient views and the estimated viewpoint saliency maps of various 3D objects generated by our method.

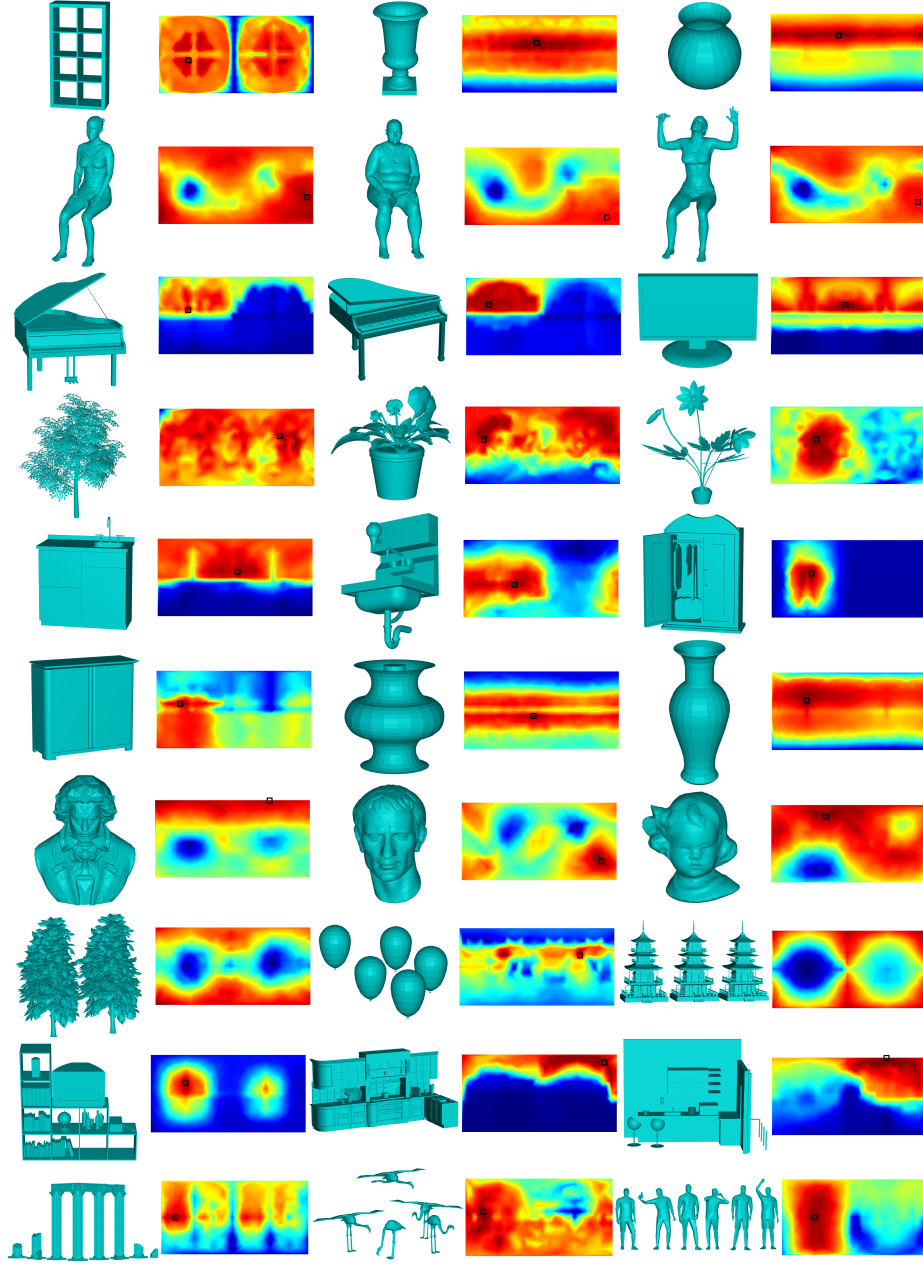


Fig. 4. Qualitative results of the salient views and the estimated viewpoint saliency maps of various 3D objects and scenes generated by our method.

