Supplemental Material for Paper 1873

1 **Visualization of interrelations (IRs) among 1K categories** Recall that we quantify IR between
2 two categories as their feature similarities. For visualization of IRs, we randomly select 50 images
3 per category on training set of ImageNet and extract their features with the pre-trained ResNet50
4 model. Then we project the features into 2D space using t-SNE, and show the 2D embedding points
5 in Figure I. For intuitive understanding, we display the features by the corresponding images at their
6 nearest 2D embedding locations in Figure II.
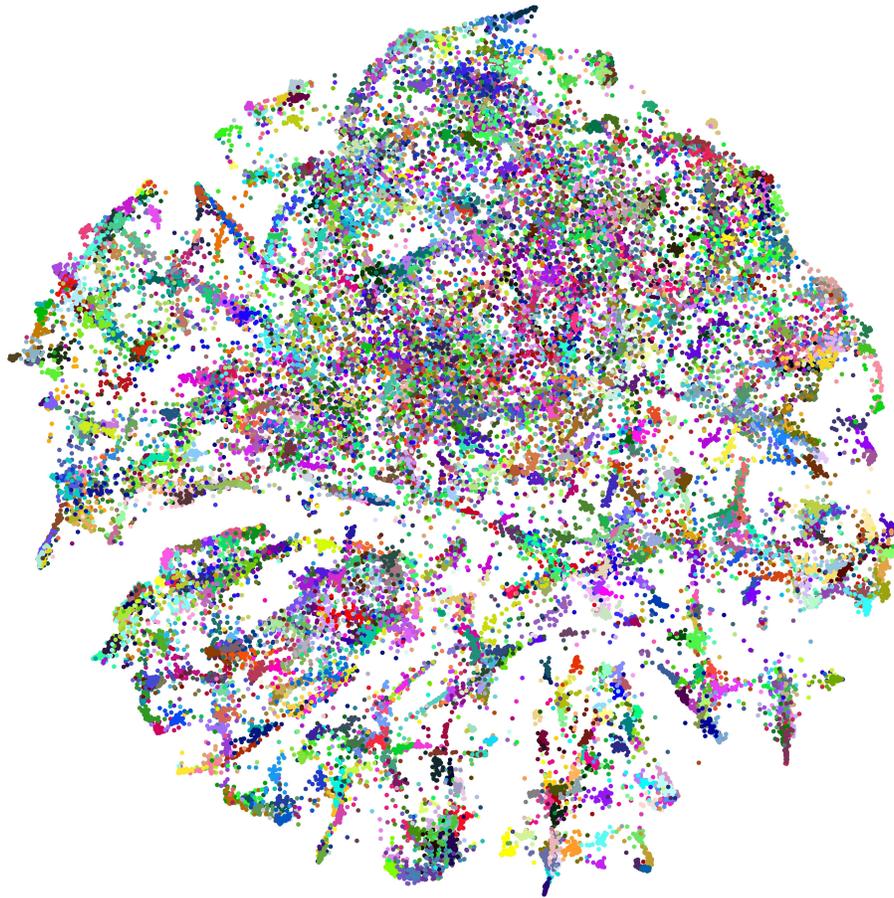
Figure I: Features of 1K categories are projected to 2D space using t-SNE where different categories
are indicated by different colors. The categories exhibit complex topological relations in the feature
space, which encode rich information and are beneficial for knowledge distillation.

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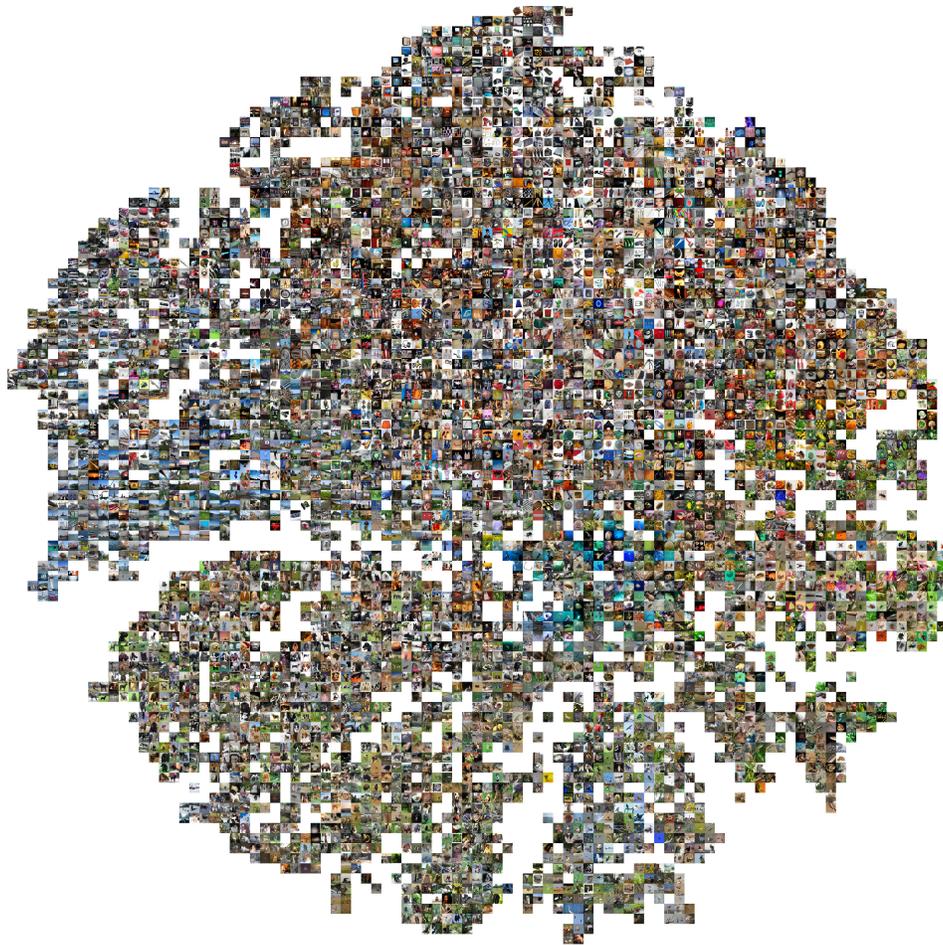
Figure II: Features of 1K categories are displayed by the corresponding images at their nearest 2D embedding locations.

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