A. Box-Plot Comparison

We use a box-plot to visualize the improvement our proposed ReMP has made over the previous SoTA methods in Figure 6. As is seen, our approach can achieve a higher accuracy while attaining a lower standard deviation.



Figure 6. Performance illustration of popular few-shot learning models [5, 27, 28, 15, 24, 10] in 1-shot 5-way (Left) miniImageNet [31] and (Right) tieredImagenet classification. To be fair, all models are built on the backbone 4-layer ConvNet-64 except the MAML, which uses a 4-layer ConvNet-48. The boxes indicate the interquartile range of the accuracy while the notches show the median and its 95% confidence interval. Whiskers denote the $1.5 \times$ interquartile range which captures 99.3% of the probability mass for a normal distribution [4].

B. Visualization of Metric Space

We visualize the metric space with t-SNE in Figure 5. Cosine similarity is applied both for training and testing in this part. The class separability follows the order: Coopertaive training > Pretrain-Finetune > Local matching > Global matching, which is consistent with the results in Table 3.



Table 5. t-SNE visualizations of metric space for 5-way 1-shot protocol based on ConvNet-64 for *miniImageNet* classification. The first 5 classes are selected from $\mathcal{D}^{\text{test}}$. From top to bottom: Cooperative training, Pretrain then finetune, Pretrain then finetune and Global matching.