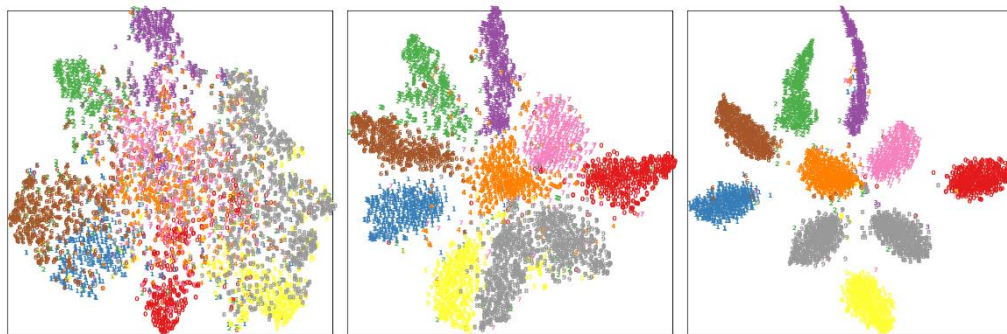


機器學習 hw11 report
R11922131 資工碩一 周柏諺

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Question1(+2 pts): Visualize distribution of features accross different classes.

1. Please make t-SNE plot the distribution of early, middle, final stage. a. Evaluate the model on training dataset, collect features and labels b. Make 3 t-SNE plots of the following training phase: i. early stage ii. middle stage iii. final stage
2. Explain and analyze the distribution of features of three stages. a. Hint: Is this a good feature extractor for classification task? Why or Why not?

ANS :



Early

middle

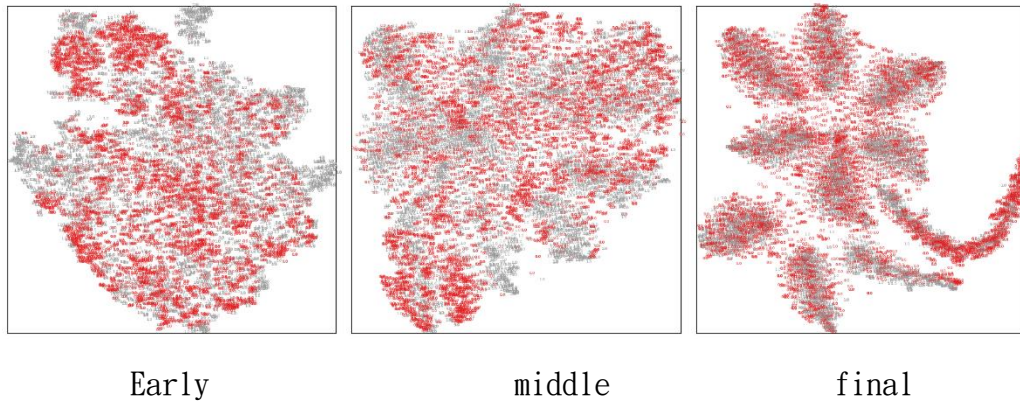
final

可以看到在訓練初期時，各類別中的特徵區分的不明顯，幾乎都混在一起，直到隨著 epoch 數的增加，各個不同類別開始出現明顯的區分，並且在各類別中也可以看出有更為集中的趨勢，表示有被準確的分到所屬的類別中，所以對於 classification task 這是一個不錯的 feature extractor。

Question2 (+2pts): Visualize distribution of features accross different domains.

1. Please plot the distribution of early, middle, final stage. a. Evaluate the model on source dataset and target dataset, collect feature and labels b. Make 3 plots of the following training phase:
 - i. early stage
 - ii. middle stage
 - iii. final stage
2. Explain and analyze the distribution of features of three training phases. a. Hint: Is this a good feature extractor for domain adaption task? Why or Why not?

ANS :



可以看到在訓練初期，不同 domain 之間的特徵分布較不同，且有些區域只存在單一 domain 分布，到了訓練中期，可以看到 domain 之間的分佈越來越像，直到訓練最後，可以明顯地看到不同 domain 之間的分佈幾乎相同，所以對於 domain adaptation 這是一個不錯的 feature extractor。