

Supplementary Material

Anonymous CVPR submission

Paper ID 4719

1. Details of the experimental protocol

1.1. PACS dataset

This section presents different tasks' domain distribution and class distribution for the four scenarios: DIL, smooth-DIL, CIL, and smooth-CIL. For better visualization, we map the domain label and class label as follows:

- **Class labels** : "dog": 0, "elephant": 1, "giraffe": 2, "guitar": 3, "horse": 4, "house": 5, "person": 6;
- **Domain labels** : "art_painting": "A", "cartoon": "C", "photo": "P", "sketch": "S".

DIL The class distribution of DIL is showed in Fig. 1, and the domain distribution of DIL is showed in Fig. 2.

smooth-DIL We randomly generate three experiments: smooth-DIL1 is showed in Fig. 3 and Fig. 4; smooth-DIL2 is showed in Fig. 5 and Fig. 6; smooth-DIL3 is showed in Fig. 7 and Fig. 8.

CIL Same as DIL, the class distribution of CIL is showed in Fig. 9, and the domain distribution of CIL is showed in Fig. 10.

smooth-CIL : smooth-CIL1 is showed in Fig. 11 and Fig. 12; smooth-CIL2 is showed in Fig. 13 and Fig. 14; smooth-CIL3 is showed in Fig. 15 and Fig. 16.

1.2. Cifar100 dataset

In cifar100 dataset, there are 20 superclasses and each superclass contains five subclasses. In our experiments, we consider the superclass label as class-label and the subclass label as domain-label. For better visualization, we map the domain label and class label as follows:

- **Class labels**: 'aquatic_mammals':0, 'fish':1, 'flowers':2, 'food_containers':3, 'fruit_and_vegetables':4, 'household_electrical_devices':5, 'household_furniture':6, 'insects':7, 'large_carnivores':8,

'large_man-made_outdoor_things':9, 'large_natural_outdoor_scenes':10, 'large_omnivores_and_herbivores':11, 'medium_mammals':12, 'non-insect_invertebrates':13, 'people':14, 'reptiles':15, 'small_mammals':16, 'trees':17, 'vehicles_1':18, 'vehicles_2':19.

- **Domain labels**: Because one superclass has five subclasses, we generate five domains for our experiments. For each domain, we randomly select one subclass from a superclass. Thus, each domain contains 20 subclasses from the different superclass. For simplicity, we use the number as (0,1,2,3,4) to represent the domain label.

DIL The class distribution of DIL is showed in Fig. 17, and the domain distribution of DIL is showed in Fig. 18.

smooth-DIL We randomly generate three experiments: smooth-DIL1 is showed in Fig. 19 and Fig. 20; smooth-DIL2 is showed in Fig. 21 and Fig. 22; smooth-DIL3 is showed in Fig. 23 and Fig. 24.

CIL Same as DIL, the class distribution of CIL is showed in Fig. 25, and the domain distribution of CIL is showed in Fig. 26.

smooth-CIL : smooth-CIL1 is showed in Fig. 27 and Fig. 28; smooth-CIL2 is showed in Fig. 29 and Fig. 30; smooth-CIL3 is showed in Fig. 31 and Fig. 32.

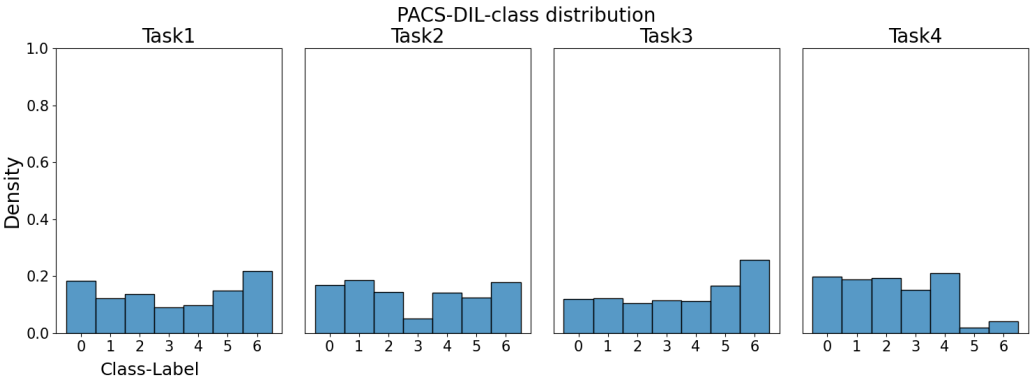


Figure 1. The class distribution of different tasks for PACS's DIL

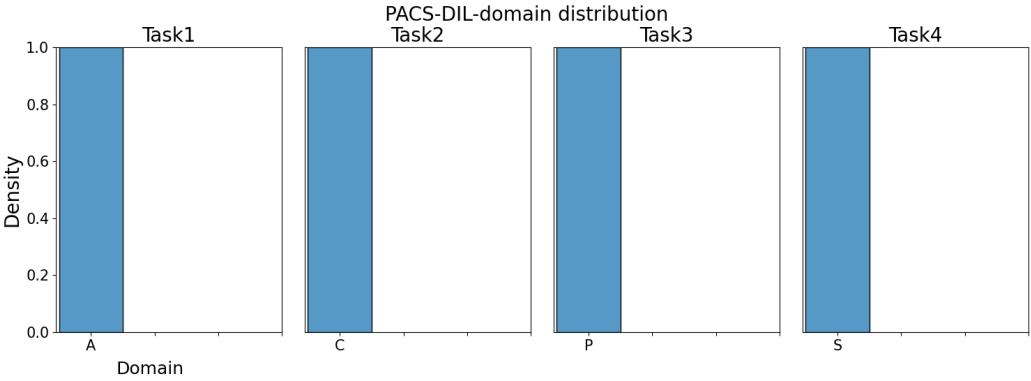


Figure 2. The class distribution of different tasks for PACS's DIL

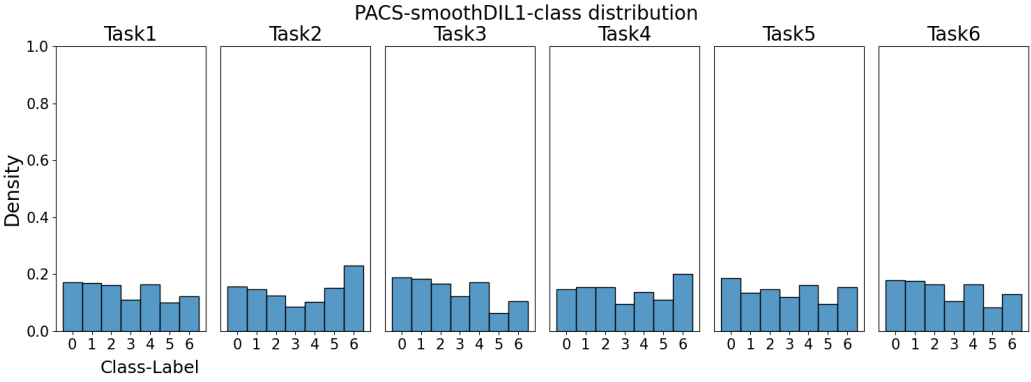


Figure 3. The class distribution of different tasks for PACS's smooth-DIL1

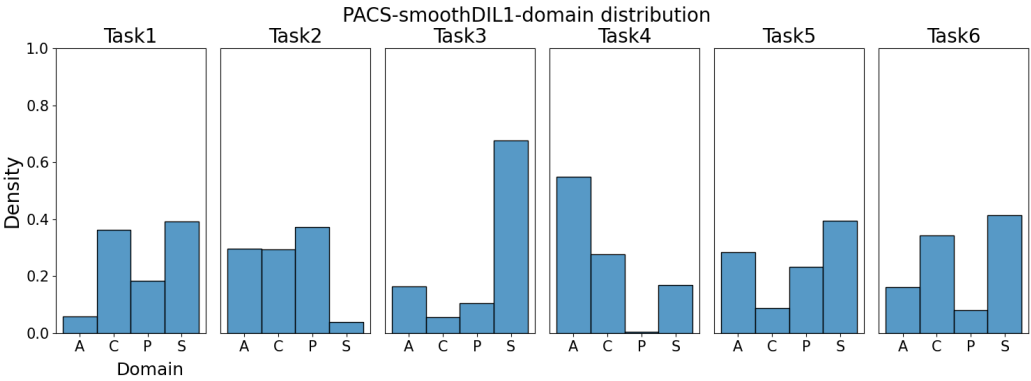


Figure 4. The class distribution of different tasks for PACS’s smooth-DIL1

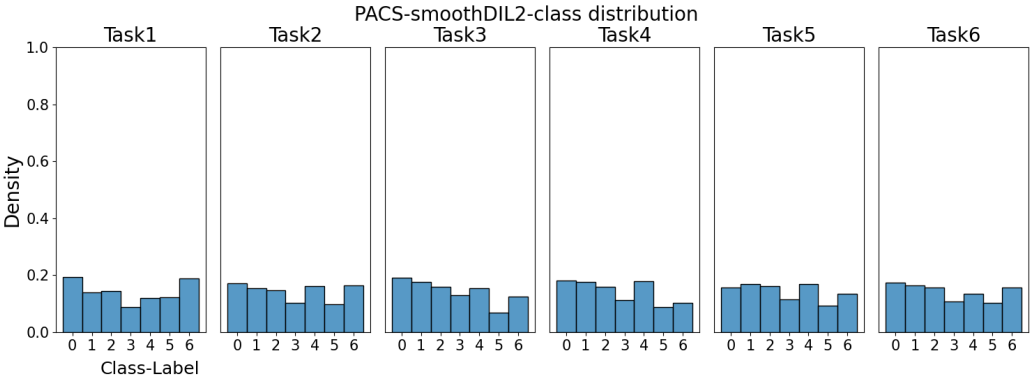


Figure 5. The class distribution of different tasks for PACS’s smooth-DIL2

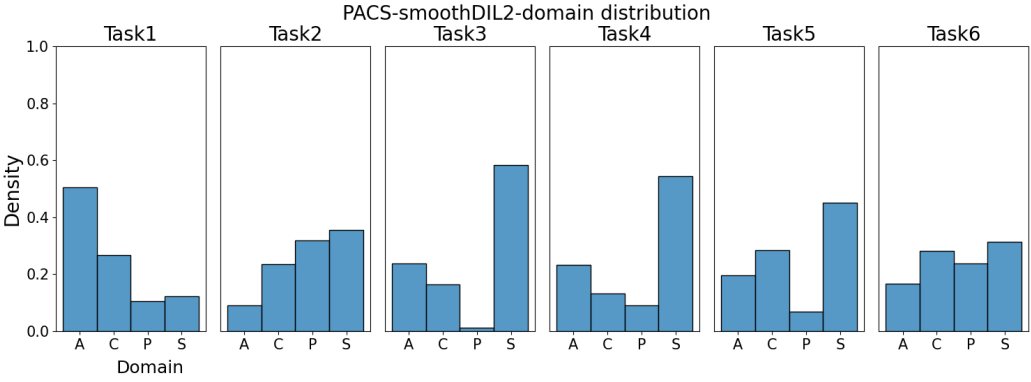


Figure 6. The class distribution of different tasks for PACS’s smooth-DIL2

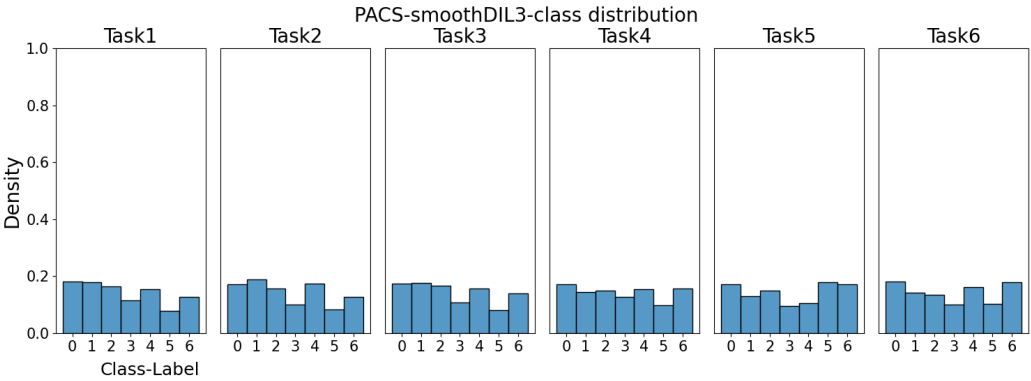


Figure 7. The class distribution of different tasks for PACS’s smooth-DIL3

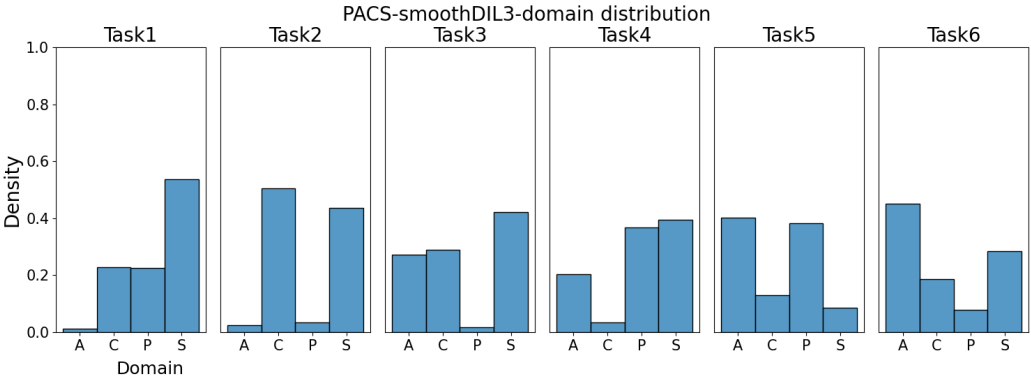


Figure 8. The class distribution of different tasks for PACS’s smooth-DIL3

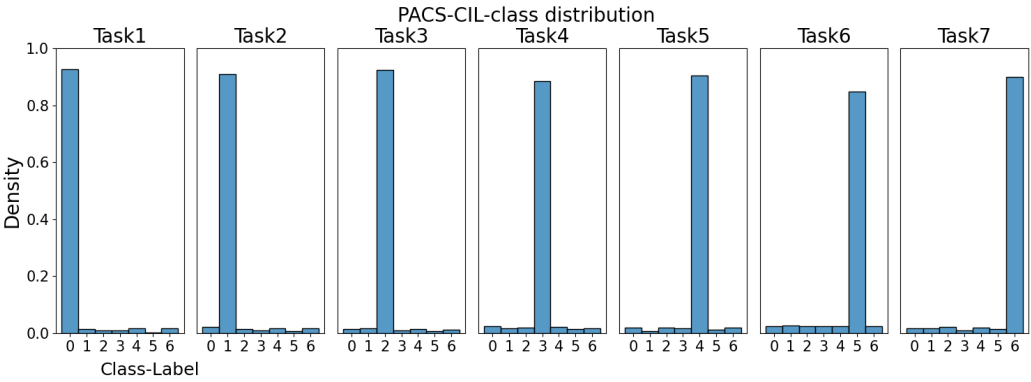


Figure 9. The class distribution of different tasks for PACS’s CIL

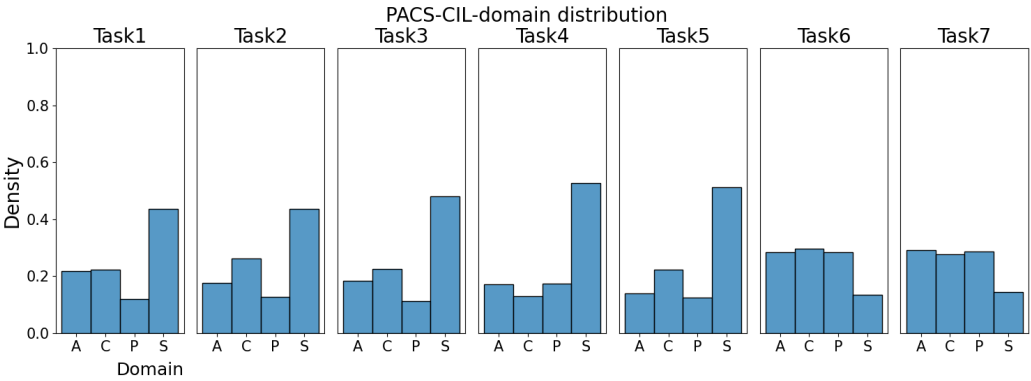


Figure 10. The class distribution of different tasks for PACS's CIL

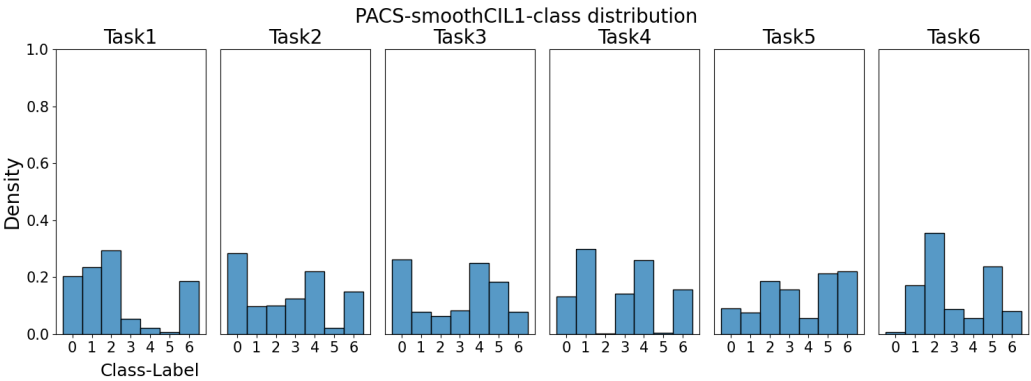


Figure 11. The class distribution of different tasks for PACS's smooth-CIL1

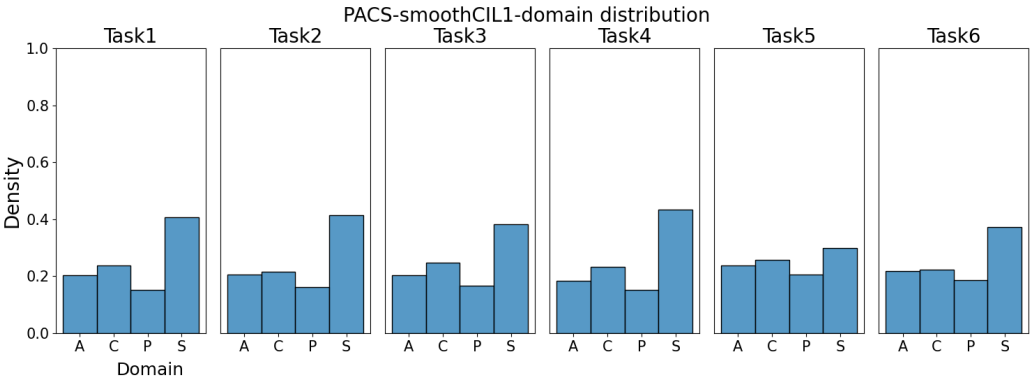


Figure 12. The class distribution of different tasks for PACS's smooth-CIL1

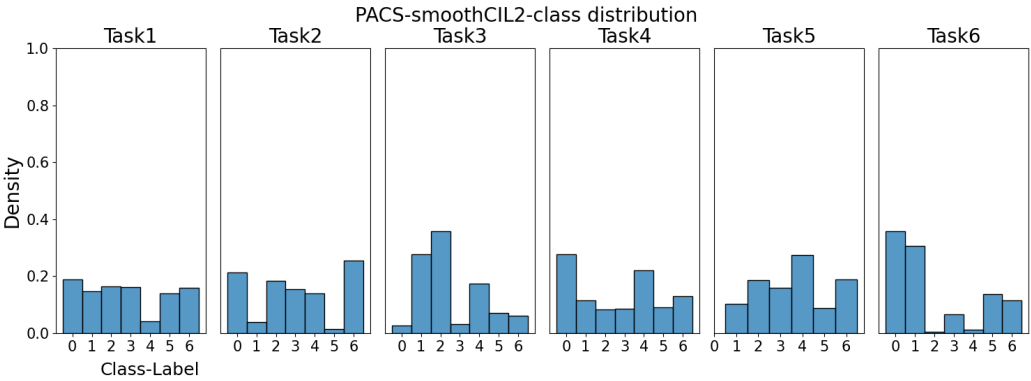


Figure 13. The class distribution of different tasks for PACS’s smooth-CIL2

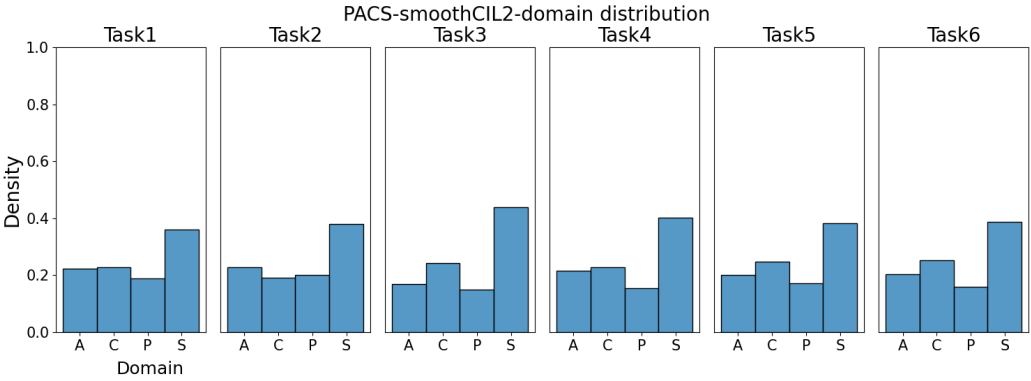


Figure 14. The class distribution of different tasks for PACS’s smooth-CIL2

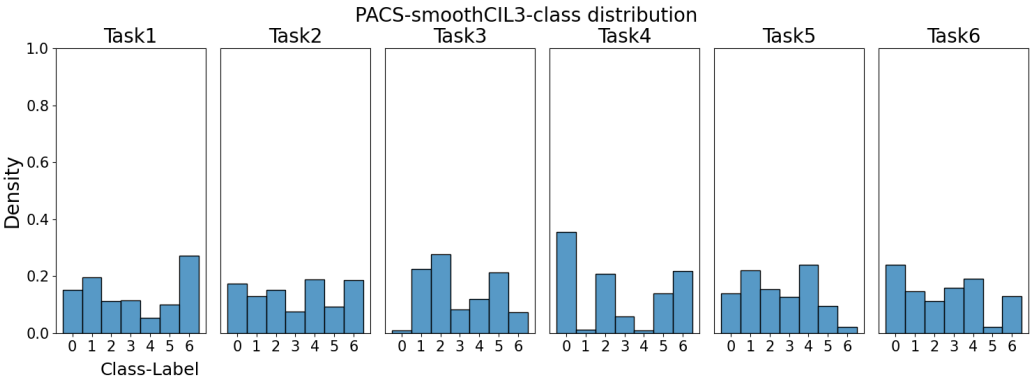


Figure 15. The class distribution of different tasks for PACS’s smooth-CIL3

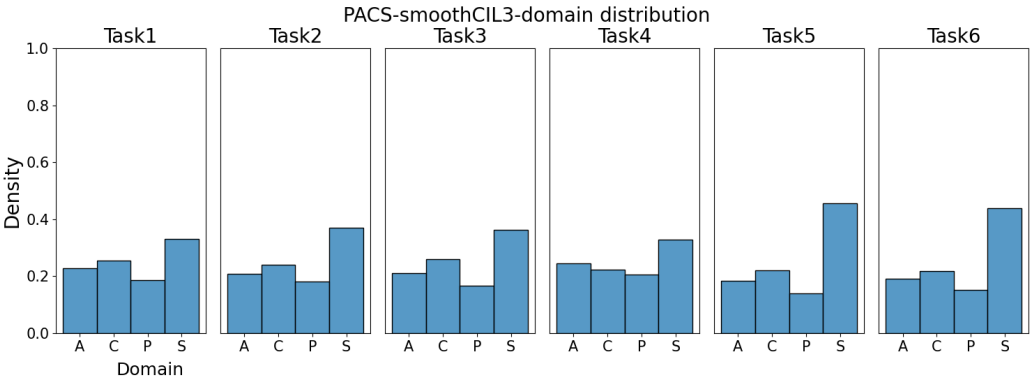


Figure 16. The class distribution of different tasks for PACS's smooth-CIL3

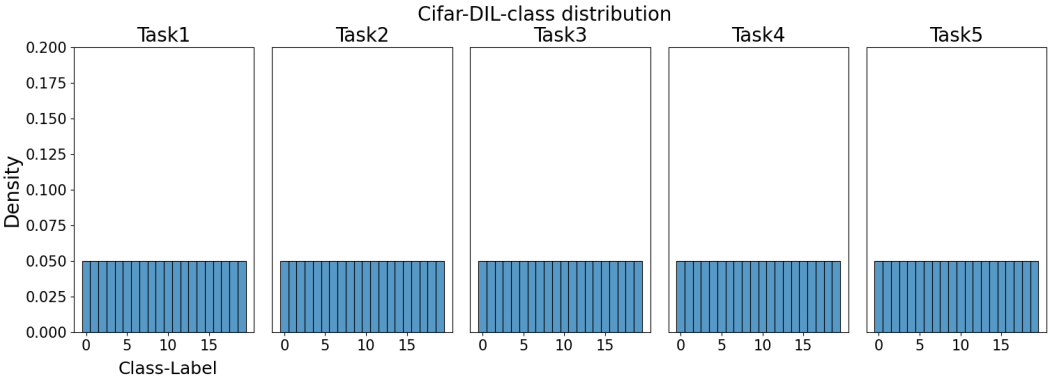


Figure 17. The class distribution of different tasks for Cifar100's DIL

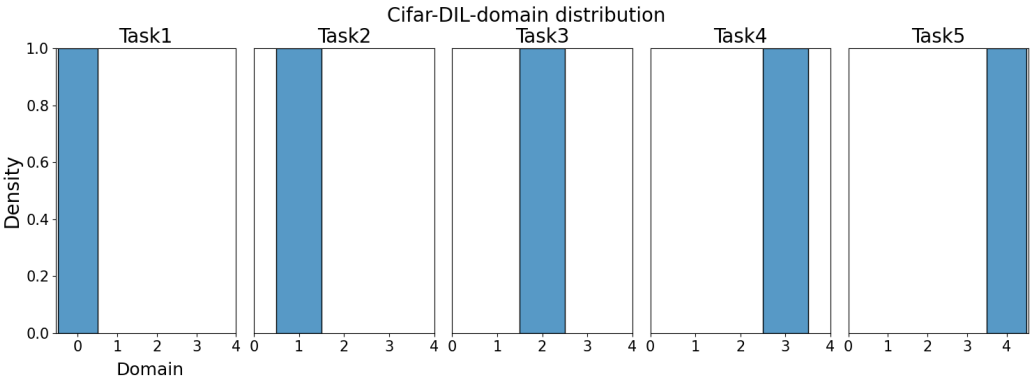


Figure 18. The class distribution of different tasks for Cifar100's DIL

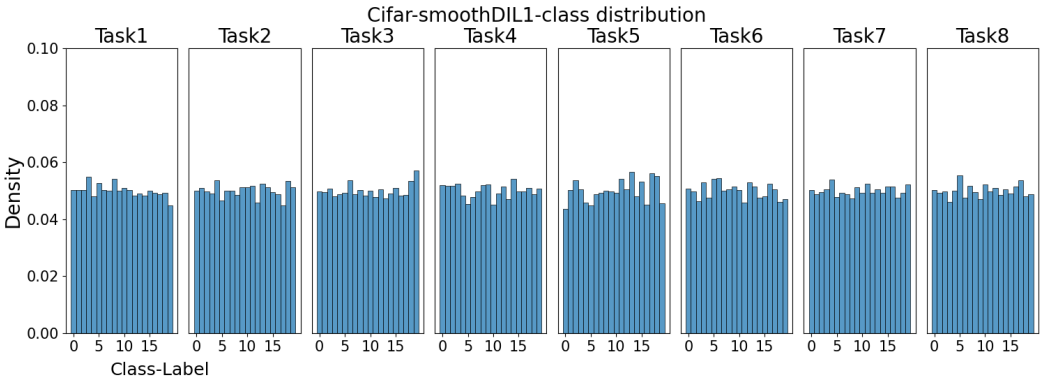


Figure 19. The class distribution of different tasks for Cifar100’s smooth-DIL1

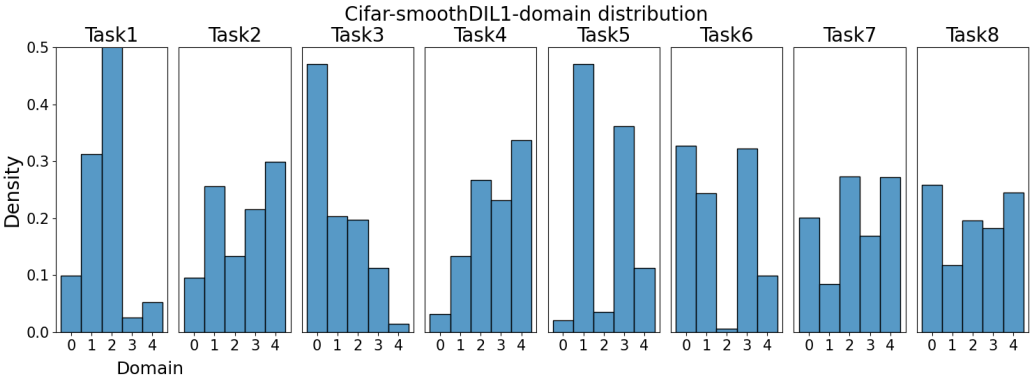


Figure 20. The class distribution of different tasks for Cifar100’s smooth-DIL1

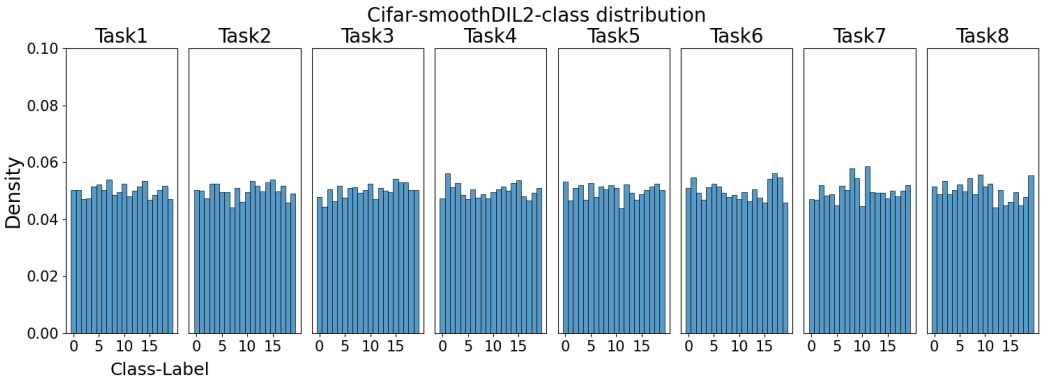


Figure 21. The class distribution of different tasks for Cifar100’s smooth-DIL2

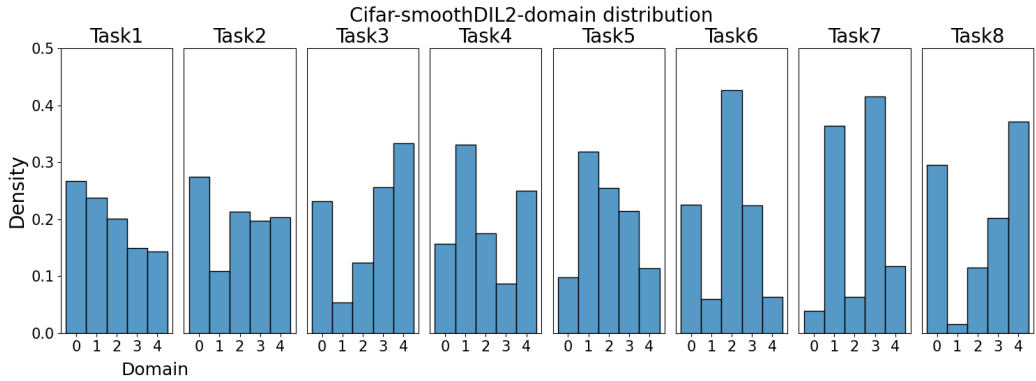


Figure 22. The class distribution of different tasks for Cifar100's smooth-DIL2

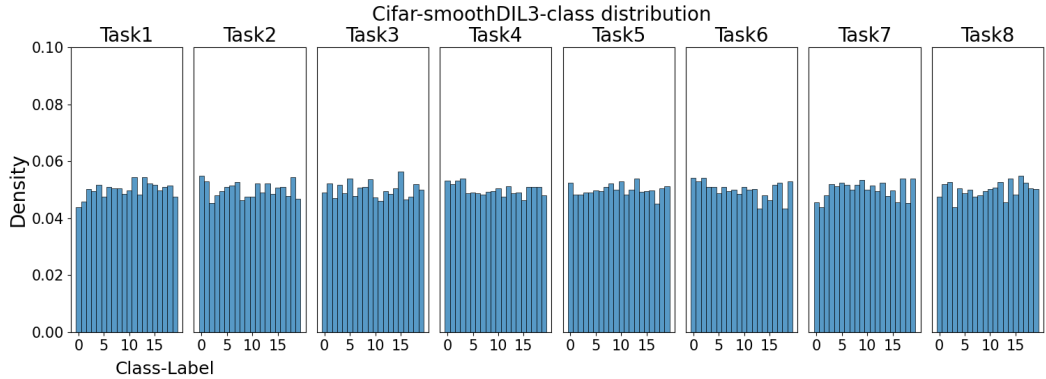


Figure 23. The class distribution of different tasks for Cifar100's smooth-DIL3

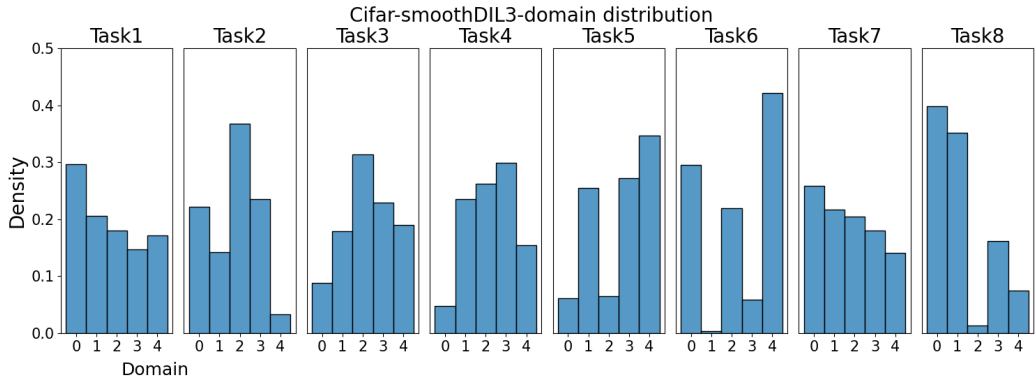


Figure 24. The class distribution of different tasks for Cifar100's smooth-DIL3

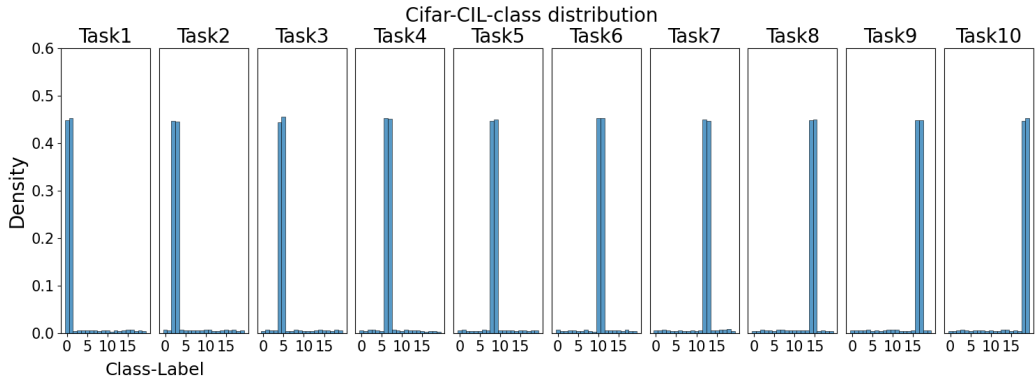


Figure 25. The class distribution of different tasks for Cifar100's CIL

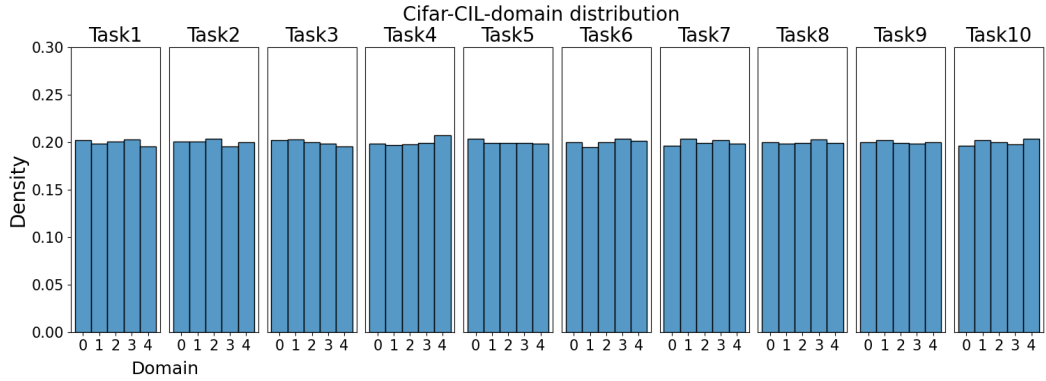


Figure 26. The class distribution of different tasks for Cifar100's CIL

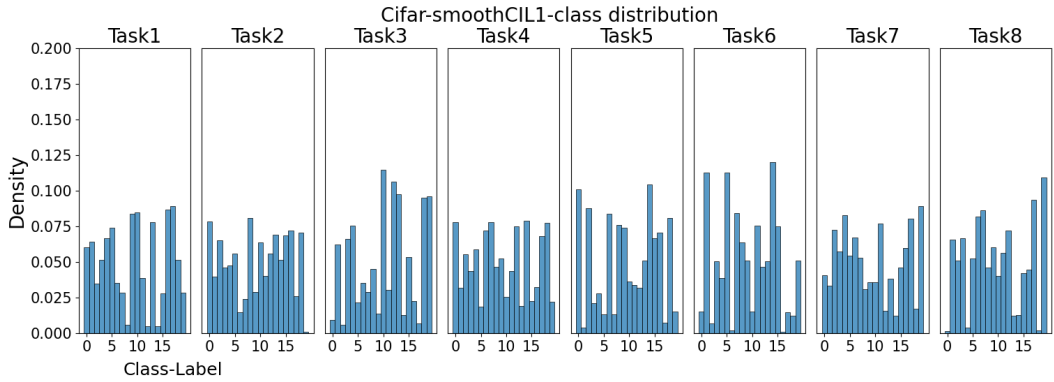


Figure 27. The class distribution of different tasks for Cifar100's smooth-CIL1

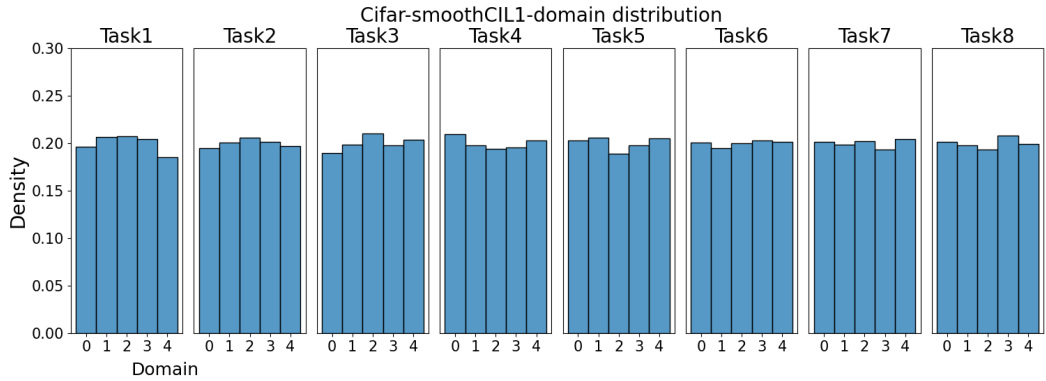


Figure 28. The class distribution of different tasks for Cifar100’s smooth-CIL1

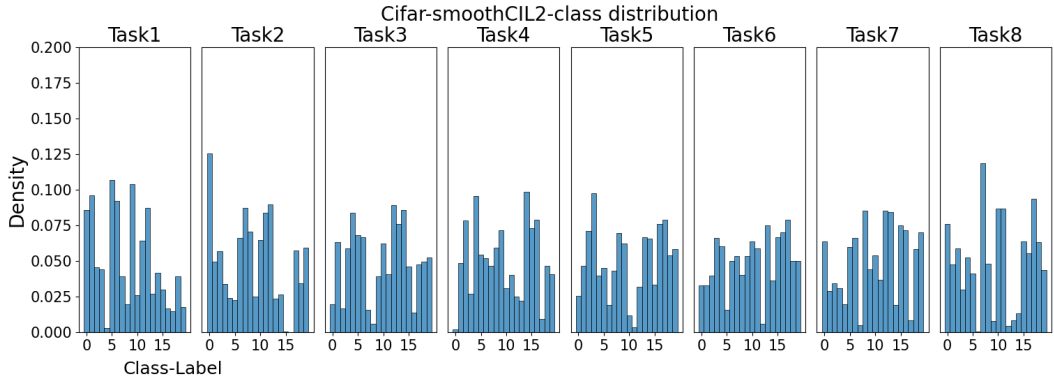


Figure 29. The class distribution of different tasks for Cifar100’s smooth-CIL2

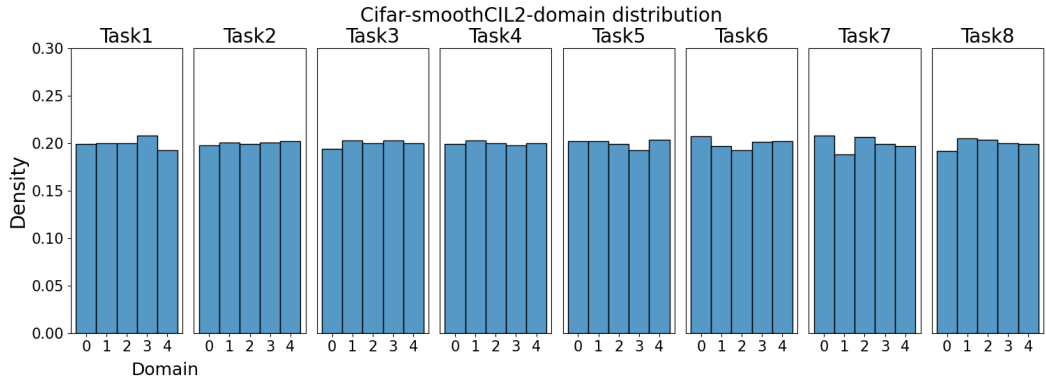


Figure 30. The class distribution of different tasks for Cifar100’s smooth-CIL2

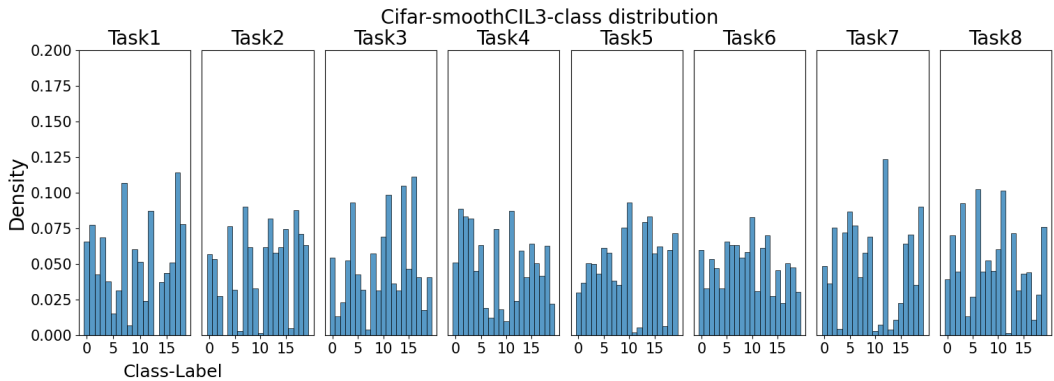


Figure 31. The class distribution of different tasks for Cifar100’s smooth-CIL3

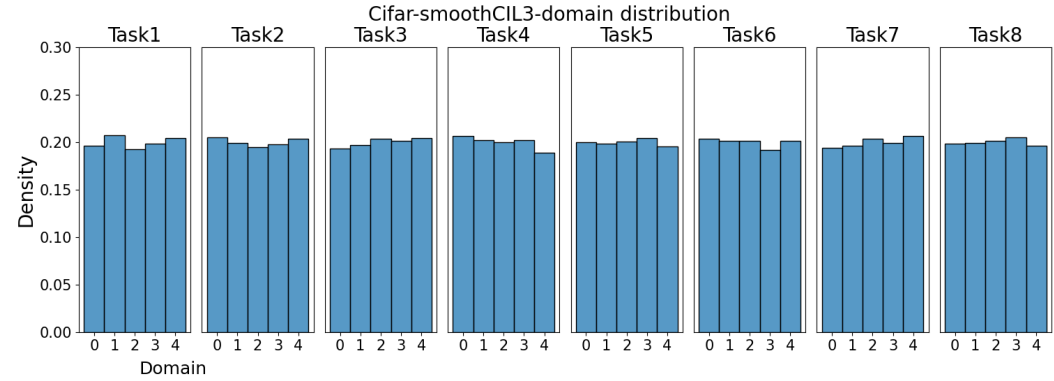


Figure 32. The class distribution of different tasks for Cifar100’s smooth-CIL3