DLCV Spring 2018 Final Challenge 1 – Object Recognition
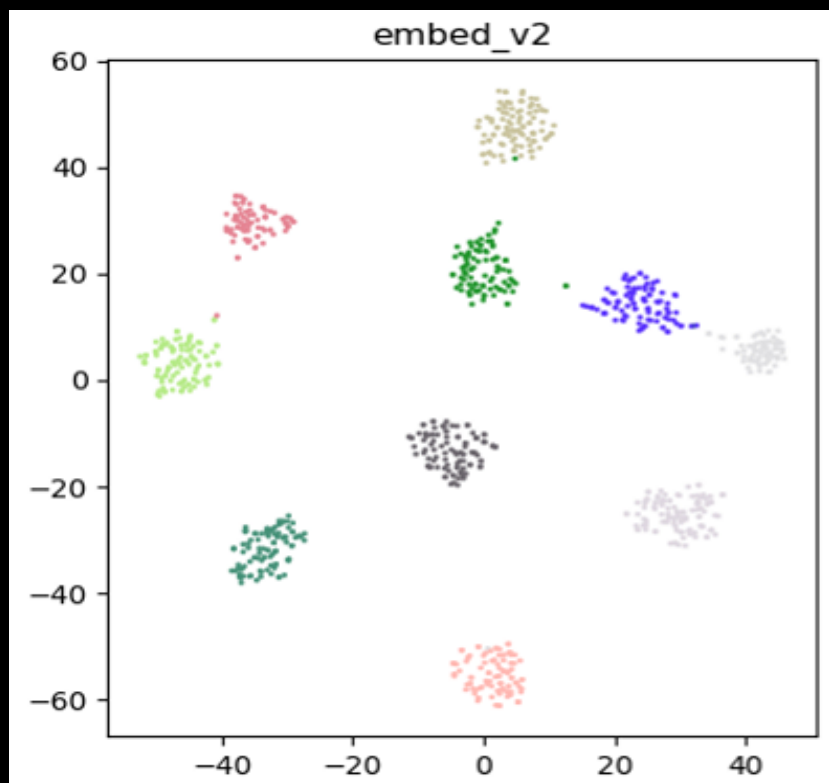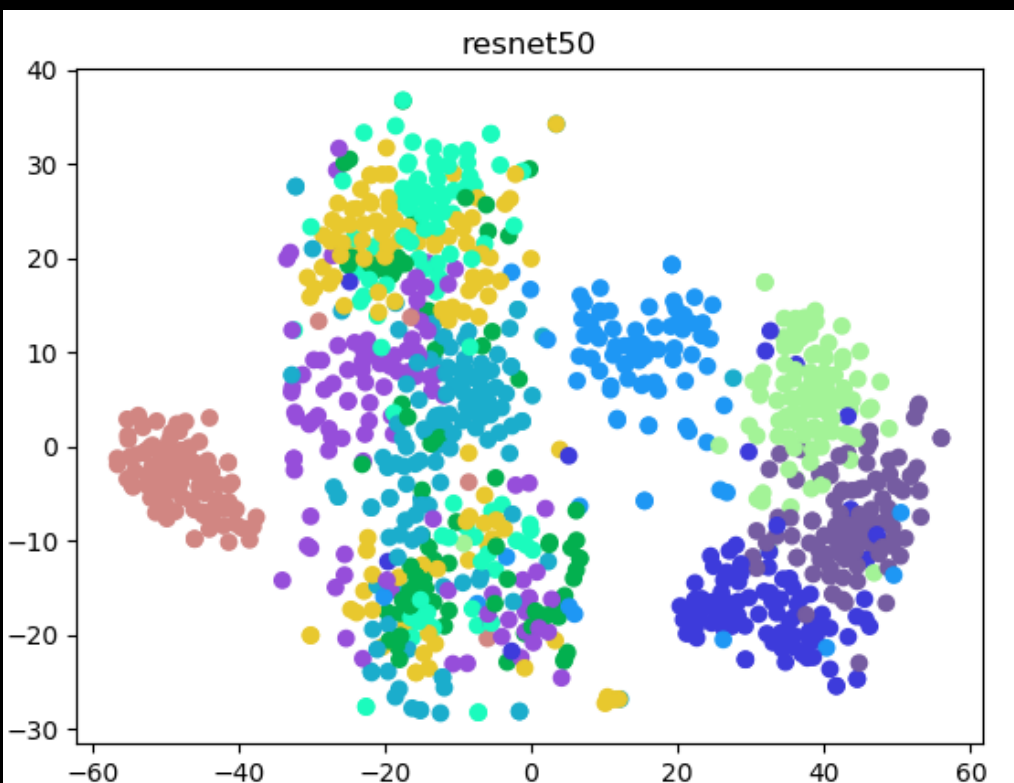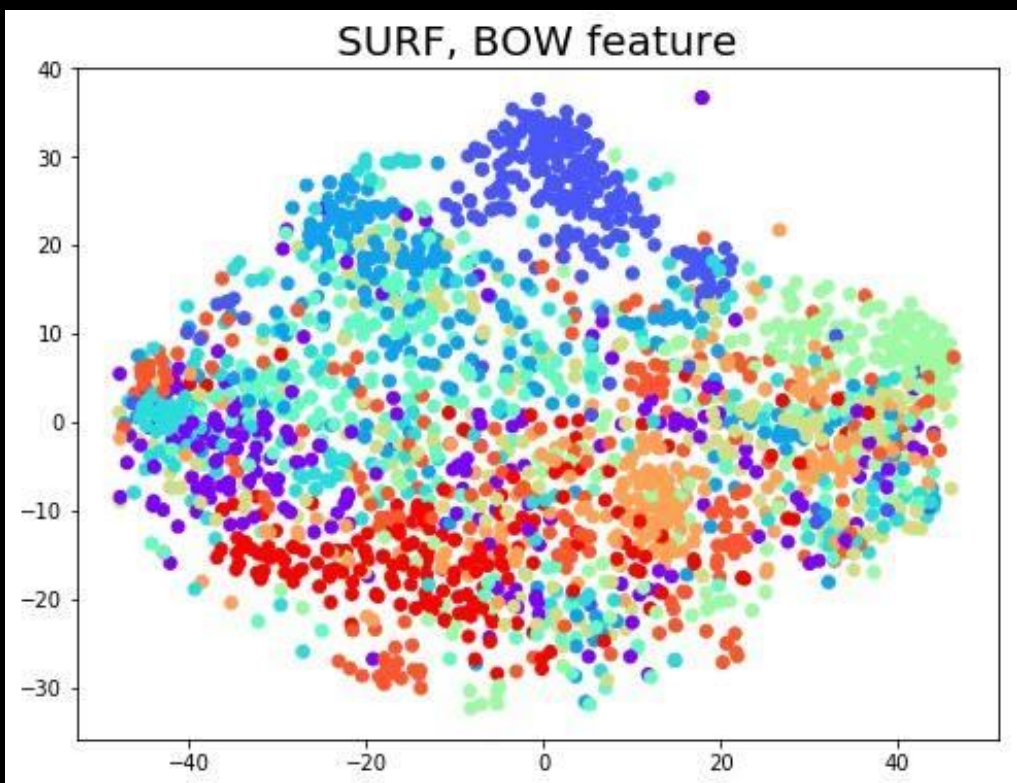
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Task 1

Approaches:
- Speeded up robust feature + Bag of word
- Pre-trained deep feature extractors (Xception, VGG16, Resnet50, etc.)
- Simple convolutional neural network

	Baseline	Surf + BoW + kNN	Surf + BoW + FC network	Resnet50 + Dense	Simple CNN
Accuracy	0.799	0.583	0.659	0.840	0.854

Task 2

Approaches:
- Speeded up robust feature + Bag of word
- Pre-trained deep feature extractors using base data (Resnet50, Simple CNN)
- Siamese network (Gregory Koch et al., 2015)
- Relation network (Flood Sung et al., 2018)

1-shot	Baseline	Siamese network	Simple CNN + FC network	Resnet50 + FC network	Relation network
Accuracy	0.200	0.186	0.244	0.278	0.300

5-shot	Baseline	Surf + BoW + FC network	Simple CNN + FC network	Resnet50 + FC network	Relation network
Accuracy	0.456	0.129	0.375	0.499	0.400

10-shot	Baseline	-	Simple CNN + FC network	Resnet50 + FC network	Relation network
Accuracy	0.523	-	0.485	0.566	0.440