**CV-SL paper list**

**Semi-Supervised learning**

**GAN：**

* 1. **[1]Dai et al.** Good Semi-supervised Learning That Requires a Bad GAN
  2. **[2]Dong et al.** MarginGAN: Adversarial Training in Semi-Supervised Learning
  3. **[3]Kumar et al.** Semi-supervised Learning with GANs: Manifold Invariance with Improved Inference

**Non-parametric:**

* 1. **[4]Zhuang et al.** local label propagation for large scale supervised learning
  2. **[5]Iscen et al.** Label Propagation for Deep Semi-supervised Learning
  3. **[6]Liu et al.** Deep metric transfer for label propagation with limited annotated data.
  4. **[7]Wu et al.** Unsupervised feature learning via non-parametric instance discrimination*.*

**A good ‘teacher’**

* 1. **[8]Rasmus et al.** Semi supervised Learning with Ladder Networks.
  2. **[9]Sajjadi et al.** Regularization With Stochastic Transformations and Perturbations for Deep Semi-Supervised Learning
  3. **[10]Laine et al.** Temporal Ensembling for Semi-Supervised Learning
  4. **[11]Tarvainen et al.** Mean teachers are better role models: Weight-averaged consistency targets improve semi-supervised deep learning results
  5. **[12]Peng et al.** Deep co-training for semi-supervised image recognition.

**A good augmentation:**

* 1. **[13]Miyato et al.** Virtual Adversarial Training: A Regularization Method for Supervised and Semi-Supervised Learning
  2. **[14]Verma et al.** Interpolation Consistency Training for Semi-Supervised Learning
  3. **[15]Berthelot et al.** mixmatch a holistic approch to semi-supervised learning
  4. **[16]Berthelot et al.** remixmatch semi supervised learning
  5. **[17]Li et al.** Dividemix: learning with noisy labels as semi-supervised learning
  6. **[18]Cicek et al.** SaaS: Speed as a Supervisor for Semi-supervised Learning

**Theory:**

* 1. **[19]Zhai et al.** Adversarially Robust Generalization Just Requires More Unlabeled Data

**[20]**[**Raghunathan**](https://arxiv.org/search/cs?searchtype=author&query=Raghunathan%2C+A)**, et al.** Adversarial training can hurt generalization

**Self-Supervised learning**

**Tasks:**

**[1]** Unsupervised Visual Representation Learning by Context Prediction(ICCV15)

**[2]** Unsupervised Learning of Visual Representations

by Solving Jigsaw Puzzles (ECCV16)

**[3]** Unsupervised RepresenUnsupervised Learning of Visual tation Learning By Predicting Image Rotations (ICLR18)

**[4]** A MUTUAL INFORMATION MAXIMIZATION PERSPECTIVE OF LANGUAGE REPRESENTATION LEARNING

**[5]** LXMERT: Learning Cross-Modality Encoder Representations from Transformers

**Large Scale:**

**[6]** Scaling and Benchmarking Self-Supervised Visual Representation Learning (ICCV19)

**Mutual Information:**

**[7]** LEARNING DEEP REPRESENTATIONS BY MUTUAL INFORMATION ESTIMATION AND MAXIMIZATION(ICLR19)

**Contrastive learning:**

**[8]** A Simple Framework for Contrastive Learning of Visual Representations (Preprint)

**Multi-task pipeline:**

**[9]X. Liu et al.** Leveraging Unlabeled Data for Crowd Counting by Learning to Rank,2018

**[10]X. Liu et al**. Learning from rankings for no-reference image quality assessment,2017

**[11]X. Liu et al**. Exploiting Unlabeled Data in CNNs by Self-supervised Learning to Rank,2019

**Embed task:**

**[12] Ting Chen et al.** Self-supervised gans via auxiliary rotation loss. 2019

**[13] Tran et al**. Self-supervised GAN: Analysis and Improvement with Multi-class Minimax Game,2020

**Prior knowledge:**

**[14] A. Krull et al**. Noise2Void – Learning denoising from single noisy images,2019

**[15] Samuli et al**. High-Quality Self-Supervised Deep Image Denoising, 2019

**Self-train and meta learning:**

**[16] Xinzhe Li et al**. Learning to Self-Train for Semi-Supervised Few-Shot Classification,2019

**[17]** Shuﬄe and Learn: Unsupervised Learning using Temporal Order Veriﬁcation

**[18]** Learning and Using the Arrow of Time

**[19]** Tracking Emerges by Colorizing Videos

**[20]** Joint-task Self-supervised Learning for Temporal Correspondence

**[21]** Self-Supervised Generalisation with Meta Auxiliary Learning

**[22]** Using Self-Supervised Learning Can Improve Model Robustness and Uncertainty