ErSKS / **AdversarialNetsPapers**
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The classical paper list with code about generative adversarial nets                    Edit

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# AdversarialNetsPapers

The classic about Generative Adversarial Networks

## First paper

✔ [Generative Adversarial Nets] [Paper] [Code](the First paper of GAN)

## Unclassified

✔ [Deep Generative Image Models using a Laplacian Pyramid of Adversarial Networks] [Paper][Code]

✔ [Adversarial Autoencoders] [Paper][Code]

✔ [Generating Images with Perceptual Similarity Metrics based on Deep Networks] [Paper]

✔ [Generating images with recurrent adversarial networks] [Paper][Code]

✔ [Generative Visual Manipulation on the Natural Image Manifold] [Paper][Code]

✔ [Learning What and Where to Draw] [Paper][Code]

✔ [Adversarial Training for Sketch Retrieval] [Paper]

✔ [Generative Image Modeling using Style and Structure Adversarial Networks] [Paper][Code]

✔ [Generative Adversarial Networks as Variational Training of Energy Based Models] [Paper](ICLR 2017)

✔ [Synthesizing the preferred inputs for neurons in neural networks via deep generator networks] [Paper][Code]

✔ [SalGAN: Visual Saliency Prediction with Generative Adversarial Networks] [Paper][Code]

✔ [Adversarial Feature Learning] [Paper]

✔ [Adversarially Learned Inference][Paper][Code]

## GAN Theory

✔ [Energy-based generative adversarial network] [Paper][Code](Lecun paper)

✔ [Improved Techniques for Training GANs] [Paper][Code](Goodfellow's paper)

✔ [Mode Regularized Generative Adversarial Networks] [Paper](Yoshua Bengio , ICLR 2017)

✔ [Improving Generative Adversarial Networks with Denoising Feature Matching] [Paper][Code](Yoshua Bengio , ICLR 2017)

✔️ [Sampling Generative Networks] [Paper][Code]

✔️ [How to train Gans] [Docu]

✔️ [Towards Principled Methods for Training Generative Adversarial Networks] [Paper](ICLR 2017)

✔️ [Unrolled Generative Adversarial Networks] [Paper][Code](ICLR 2017)

✔️ [Least Squares Generative Adversarial Networks] [Paper][Code](ICCV 2017)

✔️ [Wasserstein GAN] [Paper][Code]

✔️ [Improved Training of Wasserstein GANs] [Paper][Code](The improve of wgan)

✔️ [Towards Principled Methods for Training Generative Adversarial Networks] [Paper]

✔️ [Generalization and Equilibrium in Generative Adversarial Nets] [Paper]（ICML 2017）

✔️ [GANs Trained by a Two Time-Scale Update Rule Converge to a Local Nash Equilibrium][Paper][code]

✔️ [Spectral Normalization for Generative Adversarial Networks][Paper][code]（ICLR 2018）

✔️ [Which Training Methods for GANs do actually Converge][Paper][code]（ICML 2018）

## Generation High-Quality Images

✔️ [Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks] [Paper][Code](Gan with convolutional networks)(ICLR)

✔️ [Generative Adversarial Text to Image Synthesis] [Paper][Code][code]

✔️ [Improved Techniques for Training GANs] [Paper][Code](Goodfellow's paper)

✔️ [Plug & Play Generative Networks: Conditional Iterative Generation of Images in Latent Space] [Paper][Code]

✔️ [StackGAN: Text to Photo-realistic Image Synthesis with Stacked Generative Adversarial Networks] [Paper][Code]

✔️ [Improved Training of Wasserstein GANs] [Paper][Code]

✔️ [Boundary Equibilibrium Generative Adversarial Networks Implementation in Tensorflow] [Paper][Code]

✔️ [Progressive Growing of GANs for Improved Quality, Stability, and Variation] [Paper][Code][Tensorflow Code]

✔️ [ Self-Attention Generative Adversarial Networks ] [Paper][Code](NIPS 2018)

✔️ [Large Scale GAN Training for High Fidelity Natural Image Synthesis] [Paper](smbmitted to ICLR 2019)

✔️ [A Style-Based Generator Architecture for Generative Adversarial Networks] [Paper]

## Semi-Supervised Learning

✔️ [Adversarial Training Methods for Semi-Supervised Text Classification] [Paper][Note]( Ian Goodfellow Paper)

✔️ [Improved Techniques for Training GANs] [Paper][Code](Goodfellow's paper)

✔️ [Unsupervised and Semi-supervised Learning with Categorical Generative Adversarial Networks] [Paper](ICLR)

✔️ [Semi-Supervised QA with Generative Domain-Adaptive Nets] [Paper](ACL 2017)

✔️ [Good Semi-supervised Learning that Requires a Bad GAN] [Paper][Code](NIPS 2017)

## Ensemble

✔️ [AdaGAN: Boosting Generative Models] [Paper][[Code]]（Google Brain）

## Image blending

✔️ [GP-GAN: Towards Realistic High-Resolution Image Blending] [Paper][Code]

## Image Inpainting

✔ [Semantic Image Inpainting with Perceptual and Contextual Losses] [Paper][Code](CVPR 2017)

✔ [Context Encoders: Feature Learning by Inpainting] [Paper][Code]

✔ [Semi-Supervised Learning with Context-Conditional Generative Adversarial Networks] [Paper]

✔ [Generative face completion] [Paper][code](CVPR2017)

✔ [Globally and Locally Consistent Image Completion] [MainPAGE][code](SIGGRAPH 2017)

✔ [High-Resolution Image Inpainting using Multi-Scale Neural Patch Synthesis] [Paper][code](CVPR 2017)

✔ [Eye In-Painting with Exemplar Generative Adversarial Networks] [Paper][Introduction][Tensorflow code](CVPR2018)

✔ [Generative Image Inpainting with Contextual Attention] [Paper][Project][Demo][YouTube][Code](CVPR2018)

✔ [Free-Form Image Inpainting with Gated Convolution] [Paper][Project][YouTube]

✔ [EdgeConnect: Generative Image Inpainting with Adversarial Edge Learning] [Paper][Code]

## Re-identification

✔ [Pose-Normalized Image Generation for Person Re-identification] [Paper][Code](ECCV 2018)

## Super-Resolution

✔ [Image super-resolution through deep learning ][Code](Just for face dataset)

✔ [Photo-Realistic Single Image Super-Resolution Using a Generative Adversarial Network] [Paper][Code]（Using Deep residual network）

✔ [EnhanceGAN] [Docs][[Code]]

✔ [ESRGAN: Enhanced Super-Resolution Generative Adversarial Networks] [Paper][Code](ECCV 2018 workshop)

## De-Occlusion

✔ [Robust LSTM-Autoencoders for Face De-Occlusion in the Wild] [Paper]

## Semantic Segmentation

✔ [Adversarial Deep Structural Networks for Mammographic Mass Segmentation] [Paper][Code]

✔ [Semantic Segmentation using Adversarial Networks] [Paper]（soumith's paper）

## Object Detection

✔ [Perceptual generative adversarial networks for small object detection] [Paper](CVPR 2017)

✔ [A-Fast-RCNN: Hard Positive Generation via Adversary for Object Detection] [Paper][code](CVPR2017)

## Landmark Detection

✔ [Style aggregated network for facial landmark detection] [Paper](CVPR 2018)

## Conditional Adversarial

✔ [Conditional Generative Adversarial Nets] [Paper][Code]

✔ [InfoGAN: Interpretable Representation Learning by Information Maximizing Generative Adversarial Nets] [Paper][Code][Code]

✔ [Conditional Image Synthesis With Auxiliary Classifier GANs] [Paper][Code](GoogleBrain ICLR 2017)

✔ [Pixel-Level Domain Transfer] [Paper][Code]

✔ [Invertible Conditional GANs for image editing] [Paper][Code]

✔ [Plug & Play Generative Networks: Conditional Iterative Generation of Images in Latent Space] [Paper][Code]

✔ [StackGAN: Text to Photo-realistic Image Synthesis with Stacked Generative Adversarial Networks] [Paper][Code]

## Video Prediction and Generation

✔ [Deep multi-scale video prediction beyond mean square error] [Paper][Code](Yann LeCun's paper)

✔ [Generating Videos with Scene Dynamics] [Paper][Web][Code]

✔ [MoCoGAN: Decomposing Motion and Content for Video Generation] [Paper]

## Texture Synthesis & style transfer

✔ [Precomputed real-time texture synthesis with markovian generative adversarial networks] [Paper][Code](ECCV 2016)

# Image Translation

✔ [UNSUPERVISED CROSS-DOMAIN IMAGE GENERATION] [Paper][Code]

✔ [Image-to-image translation using conditional adversarial nets] [Paper][Code][Code]

✔ [Learning to Discover Cross-Domain Relations with Generative Adversarial Networks] [Paper][Code]

✔ [Unpaired Image-to-Image Translation using Cycle-Consistent Adversarial Networks] [Paper][Code]

✔ [CoGAN: Coupled Generative Adversarial Networks] [Paper][Code](NIPS 2016)

✔ [Unsupervised Image-to-Image Translation with Generative Adversarial Networks] [Paper](NIPS 2017)

✔ [Unsupervised Image-to-Image Translation Networks] [Paper]

✔ [Triangle Generative Adversarial Networks] [Paper]

✔ [High-Resolution Image Synthesis and Semantic Manipulation with Conditional GANs] [Paper][code]

✔ [XGAN: Unsupervised Image-to-Image Translation for Many-to-Many Mappings] [Paper](Reviewed)

✔ [UNIT: UNsupervised Image-to-image Translation Networks] [Paper][Code](NIPS 2017)

✔ [Toward Multimodal Image-to-Image Translation] [Paper][Code](NIPS 2017)

✔ [Multimodal Unsupervised Image-to-Image Translation] [Paper][Code]

✔ [Video-to-Video Synthesis] [Paper][Code]

✔ [Everybody Dance Now] [Paper][Code]

✔ [GestureGAN for Hand Gesture-to-Gesture Translation in the Wild] [Paper][Code]

## Facial Attribute Manipulation

✔ [Autoencoding beyond pixels using a learned similarity metric] [Paper][code][Tensorflow code]

✔ [Coupled Generative Adversarial Networks] [Paper][Caffe Code][Tensorflow Code]（NIPS）

✔ [Invertible Conditional GANs for image editing] [Paper][Code]

✔ [Learning Residual Images for Face Attribute Manipulation] [Paper][code](CVPR 2017)

✔ [Neural Photo Editing with Introspective Adversarial Networks] [Paper][Code](ICLR 2017)

✔ [Neural Face Editing with Intrinsic Image Disentangling] [Paper](CVPR 2017)

✔ [GeneGAN: Learning Object Transfiguration and Attribute Subspace from Unpaired Data ] [Paper][code](BMVC 2017)

✔ [ST-GAN: Unsupervised Facial Image Semantic Transformation Using Generative Adversarial Networks] [Paper]

✔ [Beyond Face Rotation: Global and Local Perception GAN for Photorealistic and Identity Preserving Frontal View Synthesis] [Paper](ICCV 2017)

✔ [StarGAN: Unified Generative Adversarial Networks for Multi-Domain Image-to-Image Translation] [Paper][code](CVPR 2018)

✔ [Arbitrary Facial Attribute Editing: Only Change What You Want] [Paper][code]

✔ [ELEGANT: Exchanging Latent Encodings with GAN for Transferring Multiple Face Attributes] [Paper][code](ECCV 2018)

✔ [Sparsely Grouped Multi-task Generative Adversarial Networks for Facial Attribute Manipulation] [Paper][code](ACM MM2018 oral)

✔ [GANimation: Anatomically-aware Facial Animation from a Single Image] [Paper][code](ECCV 2018 oral)

✔ [Geometry Guided Adversarial Facial Expression Synthesis] [Paper](ACMMM 2018)

## Makeup

✔ [BeautyGAN: Instance-level Facial Makeup Transfer with Deep Generative Adversarial Network] [Paper](ACMMM 2018)

## Reinforcement learning

✔ [Connecting Generative Adversarial Networks and Actor-Critic Methods] [Paper](NIPS 2016 workshop)

## RNN

✔ [C-RNN-GAN: Continuous recurrent neural networks with adversarial training] [Paper][Code] ✔ [SeqGAN: Sequence Generative Adversarial Nets with Policy Gradient] [Paper][Code](AAAI 2017)

# Medicine

✔ [Unsupervised Anomaly Detection with Generative Adversarial Networks to Guide Marker Discovery] [Paper]

## 3D

✔ [Learning a Probabilistic Latent Space of Object Shapes via 3D Generative-Adversarial Modeling] [Paper][Web][code](2016 NIPS)

✔ [Transformation-Grounded Image Generation Network for Novel 3D View Synthesis] [Web](CVPR 2017)

## MUSIC

✔ [MidiNet: A Convolutional Generative Adversarial Network for Symbolic-domain Music Generation using 1D and 2D Conditions] [Paper][HOMEPAGE]

## For discrete distributions

✔ [Maximum-Likelihood Augmented Discrete Generative Adversarial Networks] [Paper]

✔ [Boundary-Seeking Generative Adversarial Networks] [Paper]

✔ [GANS for Sequences of Discrete Elements with the Gumbel-softmax Distribution] [Paper]

## Improving Classification And Recong

✔ [Generative OpenMax for Multi-Class Open Set Classification] [Paper](BMVC 2017)

✔ [Controllable Invariance through Adversarial Feature Learning] [Paper][code](NIPS 2017)

✔ [Unlabeled Samples Generated by GAN Improve the Person Re-identification Baseline in vitro] [Paper][Code] (ICCV2017)

✔ [Learning from Simulated and Unsupervised Images through Adversarial Training] [Paper][code]（Apple paper, CVPR 2017 Best Paper）

# Project

✔ [cleverhans] [Code](A library for benchmarking vulnerability to adversarial examples)

✔ [reset-cppn-gan-tensorflow] [Code](Using Residual Generative Adversarial Networks and Variational Auto-encoder techniques to produce high resolution images)

✔ [HyperGAN] [Code](Open source GAN focused on scale and usability)

# Blogs

| Author | Address |
| --- | --- |
| inFERENCe | Adversarial network |
| inFERENCe | InfoGan |
| distill | Deconvolution and Image Generation |
| yingzhenli | Gan theory |
| OpenAI | Generative model |

# Tutorial

✔ [1] http://www.iangoodfellow.com/slides/2016-12-04-NIPS.pdf (NIPS Goodfellow Slides)[Chinese Trans][details]

✔ [2] [PDF](NIPS Lecun Slides)

✔ [3] [ICCV 2017 Tutorial About GANS]