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Functional MRI (most related to visual area)

有关视觉方面的研究，建议关注 Stanford 的 Wandell 组的工作

http://vistalab.stanford.edu/

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Brain Connectome

两个专辑

http://www.sciencedirect.com/science/journal/10538119/80/supp/C

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Edited by Stephen Smith

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这是一个有关 AD 分类方面的专辑

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Deep Learning based Segmentation

- Özgün Çiçek, Abdulkadir A, Lienkamp S S, et al. 3D U-Net: Learning Dense Volumetric Segmentation from Sparse Annotation[C]// International

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- Arxiv:Medical Image Analysis using Convolutional Neural Networks: A Review
- 1.
  Suggestive Annotation: A Deep Active Learning Framework for Biomedical Image Segmentation
  2.
  Deep adversarial networks for biomedical image segmentation utilizing unannotated images
  3. Automatic 3D cardiovascular MR segmentation with densely-connected volumetric convnets
  4.
  Deeply supervised network for automated segmentation of volumetric medical images
  5.

Integrating statistical prior knowledge into convolutional neural networks

计算机辅助诊断论文：
医学图像课程，计算机辅助诊断部分参考文献（5 篇）：

1、Deep Multi-instance Networks with Sparse Label Assignment for Whole Mammogram Classification（MICCAI 最新文章，关于整张图像的多实例分类学习。这项研究的背景是，各种医学图像中诊断病症存在时，如果出现一个正例，就可以认为图像的判定结果是“有疾病、阳性”；但“无疾病”的判定结果需要图像中所有的区块都没有出现正例才行。那这就是多实例学习的范畴。）
2、Deep Correlation Learning for Survival Prediction from Multi-modality Data（MICCAI 最新文章，多模态的深度相关学习）
3、Shen W, Zhou M, Yang F, et al. Multi-scale convolutional neural networks for lung nodule classification[C]//International Conference on Information Processing in Medical Imaging. Springer, Cham, 2015: 588-599.（田捷老师那边学生 2015 年的文章，用深度卷积网络来做肺结节的分类，现在来看其网络非常简单，但是比较经典，google 引用率 100，不失为一篇好的深度学习辅助诊断入门文章）
4、Litjens G, Kooi T, Bejnordi B E, et al. A survey on deep learning in medical image analysis[J]. Medical image analysis, 2017, 42: 60-88.（2017 年的一篇关于深度学习在医学图像上应用的综述，总结了大约 300 篇文章，并指出了相关医学图像处理任务所使用的方法。目前引用率为 205）
5、Nie D, Zhang H, Adeli E, et al. 3D deep learning for multi-modal imaging-guided survival time prediction of brain tumor patients[C]//International Conference on Medical Image Computing and Computer-Assisted Intervention. Springer, Cham, 2016: 212-220.（沈定刚老师组 2016 年的文章，深度学习，多模态数据，预测脑肿瘤患者的存活时间的，目前 google 引用率 20，文章思路经典清晰，应该也是一篇 比较好的入门论文。）

对相关文献进行综述，介绍 1-2 个具体方法，指出该方法的主要优点，另外思考，该方法有哪些不足。

脑功能连接网络方面的论文，NeuroImage 方面的一个专刊

http://www.sciencedirect.com/science/article/pii/S1571064514001080

这也是有关网络的一个讨论与总结，可以作为研讨课的一部分内容

http://www.cs.cmu.edu/~tom/10701_sp11/lectures.shtml

这是一个机器学习的课程网站，也可参考

http://www.braintumorsegmentation.org/

有关肿瘤分割的网站

https://github.com/shawnyuen/DeepLearningInMedicalImaging

Deep Learning in Medical Imaging

CT

2017

Low Dose CT Image Denoising Using a Generative Adversarial Network with Wasserstein Distance and Perceptual Loss [paper]

Automatic Liver Segmentation Using an Adversarial Image-to-Image Network [paper]

Sharpness-aware Low Dose CT Denoising Using Conditional Generative Adversarial Network [paper]

Framing U-Net via Deep Convolutional Framelets: Application to Sparse-view CT [paper]

Deep Embedding Convolutional Neural Network for Synthesizing CT Image from T1-Weighted MR Image [paepr]

A Self-aware Sampling Scheme to Efficiently Train Fully Convolutional Networks for Semantic Segmentation [paper]

DeepLesion Automated Deep Mining Categorization and Detection of Significant Radiology Image Findings using Large-Scale Clinical Lesion Annotations [paper]

Unsupervised End-to-end Learning for Deformable Medical Image Registration [paper]

DeepLung 3D Deep Convolutional Nets for Automated Pulmonary Nodule Detection and Classification [paper]

2018

DeepLung Deep 3D Dual Path Nets for Automated Pulmonary Nodule Detection and Classification [paper]

Deep LOGISMOS: Deep Learning Graph-based 3D Segmentation of Pancreatic Tumors on CT scans [paper]

MRI

2016

Medical Image Synthesis with Context-aware Generative Adversarial Networks [paper]

2017

SegAN Adversarial Network with Multi-scale L1 Loss for Medical Image Segmentation [paper]

Automatic Segmentation and Disease Classification Using Cardiac Cine MR Images [paper]

Deep MR to CT Synthesis using Unpaired Data [paper]

Multi-Planar Deep Segmentation Networks for Cardiac Substructures from MRI and CT [paper]

3D Fully Convolutional Networks for Subcortical Segmentation in MRI A Large-scale Study [paper] [code]

2D-3D Fully Convolutional Neural Networks for Cardiac MR Segmentation [paper]

Automatic 3D Cardiovascular MR Segmentation with Densely-Connected Volumetric ConvNets

Deep Generative Adversarial Networks for Compressed Sensing Automates MRI [paper]

Texture and Structure Incorporated ScatterNet Hybrid Deep Learning Network (TS-SHDL) For Brain Matter Segmentation [paper]

Automatic Brain Tumor Segmentation using Cascaded Anisotropic Convolutional Neural Networks [paper]

2018

Brain MRI Super Resolution Using 3D Deep Densely Connected Neural Networks [paper]

US

2016

Stacked Deep Polynomial Network Based Representation Learning for Tumor Classification with Small Ultrasound Image Dataset [paper]

2017

Convolutional Neural Networks for Medical Image Analysis Full Training or Fine Tuning [paepr]

2017

Freehand Ultrasound Image Simulation with Spatially-Conditioned Generative Adversarial Networks [paper]

Simulating Patho-realistic Ultrasound Images using Deep Generative Networks with Adversarial Learning [paper]

Anatomically Constrained Neural Networks (ACNN) Application to Cardiac Image Enhancement and Segmentation [paper]

X-ray

2017

Accurate Lung Segmentation via Network-Wise Training of Convolutional Networks [paper]

Abnormality Detection and Localization in Chest X-Rays using Deep Convolutional Neural Networks [paper]

PET

2017

Virtual PET Images from CT Data Using Deep Convolutional Networks Initial Results [paper]

Funduscopy

2017

Retinal Vessel Segmentation in Fundoscopic Images with Generative Adversarial Networks [paper] [Keras+TF code]

Microscopy

2016

Stain Normalization Using Sparse AutoEncoders (StaNoSA) Application to Digital Pathology [paper]

Stacked Sparse Autoencoder (SSAE) for Nuclei Detection on Breast Cancer Histopathology Images [paper]

2017

Adversarial Image Alignment and Interpolation [paper]

CNN Cascades for Segmenting Whole Slide Images of the Kidney [paper]

Learning to Segment Breast Biopsy Whole Slide Images [paper]

SFCN-OPI Detection and Fine-grained Classification of Nuclei Using Sibling FCN with Objectness Prior Interaction [paper]

Colonoscopy

2018

Real-Time Polyps Segmentation for Colonoscopy Video Frames Using Compressed Fully Convolutional Network [paper]

OCT

2017

Cystoid Macular Edema Segmentation of Optical Coherence Tomography Images Using Fully Convolutional Neural Networks and Fully Connected CRFs 2017 [paper]