COMP441/541: Deep Learning Instructor: Assoc. Prof. Aykut Erdem

PAPER LIST

Nov 1: Training Deep Neural Networks

When Do Flat Minima Optimizers Work?

Jean Kaddour, Linging Liu, Ricardo Silva, Matt Kusner. NeurIPS 2022.

https://github.com/JeanKaddour/WASAM

Nov 8: Convolutional Neural Networks

Contextual Convolutional Networks

Shuxian Liang, Xu Shen, Tongliang Liu, Xian-Sheng Hua. ICLR 2023.

https://github.com/aliyun/Contextual-Convolutional-Networks

Nov 15: No Classes - Winter Break

Nov 22: Understanding and Visualizing CNNs

Towards Improved Input Masking for Convolutional Neural Networks

Sriram Balasubramanian, Soheil Feizi. ICCV 2023.

https://github.com/SriramB-98/layer_masking

Nov 29: Recurrent Neural Networks

Resurrecting Recurrent Neural Networks for Long Sequences

Antonio Orvieto, Samuel L Smith, Albert Gu, Anushan Fernando, Caglar Gulcehre, Razvan Pascanu, Soham De. ICML 2023.

Dec 6: Attention and Transformers

LoRA: Low-Rank Adaptation of Large Language Models

Edward J Hu, yelong shen, Phillip Wallis, Zeyuan Allen-Zhu, Yuanzhi Li, Shean Wang, Lu Wang, Weizhu Chen. ICLR 2023.

https://github.com/microsoft/LoRA

Dec 13: Graph Neural Networks

Vision GNN: An Image is Worth Graph of Nodes

Kai Han, Yunhe Wang, Jianyuan Guo, Yehui Tang, Enhua Wu. NeurIPS 2022.

https://github.com/huawei-noah/Efficient-AI-Backbones/tree/master/vig_pytorch

Dec 20: Generative Adversarial Networks

StyleGAN-T: Unlocking the Power of GANs for Fast Large-Scale Text-to-Image Synthesis

Axel Sauer, Tero Karras, Samuli Laine, Andreas Geiger, Timo Aila. ICML 2023.

https://sites.google.com/view/stylegan-t/

Dec 27: Autoregressive Models

Picture That Sketch: Photorealistic Image Generation From Abstract Sketches

Subhadeep Koley, Ayan Kumar Bhunia, Aneeshan Sain, Pinaki Nath Chowdhury, Tao Xiang, Yi-Zhe Song. CVPR 2023.

https://subhadeepkoley.github.io/PictureThatSketch

Jan 3: Variational Autoencoders

Efficient-VQGAN: Towards High-Resolution Image Generation with Efficient Vision Transformers

Shiyue Cao, Yueqin Yin, Lianghua Huang, Yu Liu, Xin Zhao, Deli Zhao, Kaigi Huang. ICCV 2023.

Jan 10: Self-supervised Learning

MixMAE: Mixed and Masked Autoencoder for Efficient Pretraining of Hierarchical Vision Transformers

Jihao Liu, Xin Huang, Jinliang Zheng, Yu Liu, Hongsheng Li. CVPR 2023.

https://github.com/Sense-X/MixMIM