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**PAPER LIST****November 2: Training Deep Neural Networks**

[Beyond BatchNorm: Towards a Unified Understanding of Normalization in Deep Learning](#)

Ekdeep Singh Lubana, Robert Dick, Hidenori Tanaka. NeurIPS 2021.

<https://github.com/EkdeepSLubana/BeyondBatchNorm>

**November 9: Convolutional Neural Networks**

[Revisiting ResNets: Improved Training and Scaling Strategies](#)

Irwan Bello, William Fedus, Xianzhi Du, Ekin Dogus Cubuk, Aravind Srinivas, Tsung-Yi Lin, Jonathon Shlens, Barret Zoph. NeurIPS 2021.

[https://github.com/tensorflow/tpu/tree/master/models/official/resnet/resnet\\_rs](https://github.com/tensorflow/tpu/tree/master/models/official/resnet/resnet_rs)

**November 16: *No Classes - Winter Break*****November 23: Understanding and Visualizing CNNs**

[Towards Better Understanding Attribution Methods](#)

Sukrut Rao, Moritz Bhle, Bernt Schiele. CVPR 2022.

<https://github.com/sukrutrao/Attribution-Evaluation>

**November 30: Recurrent Neural Networks**

[Improving the Gating Mechanism of Recurrent Neural Networks](#)

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<https://github.com/aithlab/ImprovingGate>

**December 7: Attention and Transformers**

[Transformer Quality in Linear Time](#)

Weizhe Hua, Zihang Dai, Hanxiao Liu, Quoc V. Le. ICML 2022.

**December 14: Graph Neural Networks**

[Representing Long-Range Context for Graph Neural Networks with Global Attention](#)

Zhanghao Wu, Paras Jain, Matthew A. Wright, Azalia Mirhoseini, Joseph E. Gonzalez, Ion Stoica. NeurIPS 2021.

<https://github.com/ucbrise/graphtrans>

**December 21: Autoencoders and Autoregressive Models**

[The Image Local Autoregressive Transformer](#)

Chenjie Cao, Yuxin Hong, Xiang Li, Chengrong Wang, Chengming Xu, Yanwei Fu, Xiangyang Xue. NeurIPS 2021.

<https://github.com/ewrfcas/iLAT>

**December 28: Generative Adversarial Networks**

[Ensembling Off-the-Shelf Models for GAN Training](#)

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<https://github.com/nupurkmr9/vision-aided-gan>

**January 4: Variational Autoencoders**

[L-Verse: Bidirectional Generation Between Image and Text](#)

Taehoon Kim, Gwangmo Song, Sihaeng Lee, Sangyun Kim, Yewon Seo, Soonyoung Lee, Seung Hwan Kim, Honglak Lee, Kyunghoon Bae. CVPR 2022.

<https://github.com/tgisaturday/L-Verse>

**January 11: Self-supervised Learning**

[Supervision Exists Everywhere: A Data Efficient Contrastive Language-Image Pre-training Paradigm](#)

Yangguang Li, Feng Liang, Lichen Zhao, Yufeng Cui, Wanli Ouyang, Jing Shao, Fengwei Yu, Junjie Yan. ICLR 2022.

<https://github.com/Sense-GVT/DeCLIP>