PAPER LIST

March 13: Autoregressive Models
Visual Autoregressive Modeling: Scalable Image Generation via Next-Scale Prediction
Keyu Tian, Yi Jiang, Zehuan Yuan, Bingyue Peng, Liwei Wang. NeurIPS 2024.
https://github.com/FoundationVision/VAR

March 20: Normalizing Flow Models
JetFormer: An Autoregressive Generative Model of Raw Images and Text
Michael Tschannen, Andr Susano Pinto, Alexander Kolesnikov. ICLR 2025.

March 27: Latent Variable Models
High-Quality Joint Image and Video Tokenization with Causal VAE
Dawit Mureja Argaw, Xian Liu, Qinsheng Zhang, Joon Son Chung, Ming-Yu Liu, Fitsum Reda. ICLR 2025.
https://github.com/dawitmureja/Joint-Image-and-Video-Tokenization-with-Causal-VAE

April 3: *No Classes - Spring Break*

April 10: Generative Adversarial Networks I
The GAN is dead; long live the GAN! A Modern Baseline GAN
Nick Huang, Aaron Gokaslan, Volodymyr Kuleshov, James Tompkin. NeurIPS 2024.
https://github.com/brownvc/R3GAN

April 17: Generative Adversarial Networks II
E2GAN: Efficient Training of Efficient GANs for Image-to-Image Translation
Yifan Gong, Zheng Zhan, Qing Jin, Yanyu Li, Yerlan Idelbayev, Xian Liu, Andrey Zharkov, Kfir Aberman, Sergey Tulyakov, Yanzhi Wang, Jian Ren. ICML 2024.
https://github.com/Yifanfanfanfan/Yifanfanfanfan.github.io/tree/main/e2gan

April 24: Diffusion Models I
Ctrl-X: Controlling Structure and Appearance for Text-To-Image Generation Without Guidance
Kuan Heng Lin, Sicheng Mo, Ben Klingher, Fangzhou Mu, Bolei Zhou. NeurIPS 2024.
https://github.com/genforce/ctrl-x

April 29: Diffusion Models II
UltraPixel: Advancing Ultra-High-Resolution Image Synthesis to New Peaks
Jingjing Ren, Wenbo Li, Haoyu Chen, Renjing Pei, Bin Shao, Yong Guo, Long Peng, Fenglong Song, Lei Zhu. NeurIPS 2024.
https://github.com/catcathh/ultrapixel

May 1: *No Classes - May Day*

May 8: *Project Progress Presentations*

May 15: Strengths and Weaknesses of Current Generative Models
Exposing flaws of generative model evaluation metrics and their unfair treatment of diffusion models
George Stein, Jesse C. Cresswell, Rasa Hosseinzadeh, Yi Sui, Brendan Leigh Ross, Valentin Villecroze, Zhaoyan Liu, Anthony L. Caterini, Eric Taylor, Gabriel Loaiza-Ganem. NeurIPS 2023.
https://github.com/layer6ai-labs/dgm-eval

May 22: Video Generation
Autoregressive Video Generation without Vector Quantization
Haoge Deng, Ting Pan, Haiwen Diao, Zhengxiong Luo, Yufeng Cui, Huchuan Lu, Shiguang Shan, Yonggang Qi, Xinlong Wang. ICLR 2025.
https://github.com/baaivision/NOVA

May 29: Self-Supervised Learning
A Unifying Framework for Representation Learning
Shaden Naif Alshammari, Mark Hamilton, Axel Feldmann, John R. Hershey, William T. Freeman. ICLR 2025.
https://github.com/ShadeAlsha/I-Con