

## Academic Seminar

# Theory and Applications of Generative Adversarial Networks

Generative Adversarial Networks (GANs) have revolutionized unconditional image synthesis. State-of-the-art models can now generate realistic and visually-appealing images in various domains. This talk summarizes our previous studies on GANs. First, I will introduce our studies on how to improve the training stability and image quality of GANs, including LSGAN,  $\alpha\beta$ -GAN, and Rg-GAN. LSGAN is designed to alleviate the gradient vanishing problem of vanilla GAN, by using the least-squares loss.  $\alpha\beta$ -GAN is a more generalized GAN that can be reduced into LSGAN and vanilla GAN. Rg-GAN bridges the gap between the theory and practice of LSGAN and vanilla GAN. Next, I will present our studies on three interesting applications of GANs, including image-to-image translation, multi-domain image generation, and GAN inversion.



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Dr. Xudong Mao is currently an associate professor at Sun Yat-sen University. He received the PhD degree from City University of Hong Kong advised by Prof. Qing Li, and the BSc degree from Nankai University. He was a postdoctoral fellow at the Hong Kong Polytechnic University. He was a senior engineer at the institute of data science and technologies, Alibaba. His research interests are in the areas of generative adversarial network (GAN), GAN inversion, and image-to-image translation. He has published more than 20 papers in international journals and conferences such as TPAMI, ICCV, CVPR, NeurIPS, and AACL.



**Join Now**

**Date: May 27 , 2022 (Friday)**

**Time: 14:00 - 15:30**

**Zoom meeting (ID: 933 0857 8110, Passcode: 56672814)**

**Language: English**

**\*\*ALL ARE WELCOME\*\***

