



Siddhant Mishra-Sharma (MIT/AI FI) Summer School



170



Evolution of deep generative models



Variational autoencoders  
(from Kingma et al 2013)



Diffusion models  
(*Midjourney 2023*)



# Evolution of deep generative models



Variational autoencoders  
(from Kingma et al 2013)



Diffusion models  
(*Midjourney* 2023)





# The landscape of deep generative models

[Karsten Kreis; [CVPR 2022 Tutorial](#)]

A landscape of mountains with labels for different deep generative models. The mountains are layered, with the closest ones in the foreground and more distant ones in the background. The sky is a mix of orange and blue, suggesting a sunset or sunrise. The labels are placed on the mountains, with some in red and some in black. The labels are: Variational autoencoders, Diffusion models, Normalizing flows, Energy-based models, Autoregressive models, and Generative adversarial networks.

Variational autoencoders

Diffusion models

Normalizing flows

Energy-based models

Autoregressive models

Generative adversarial networks