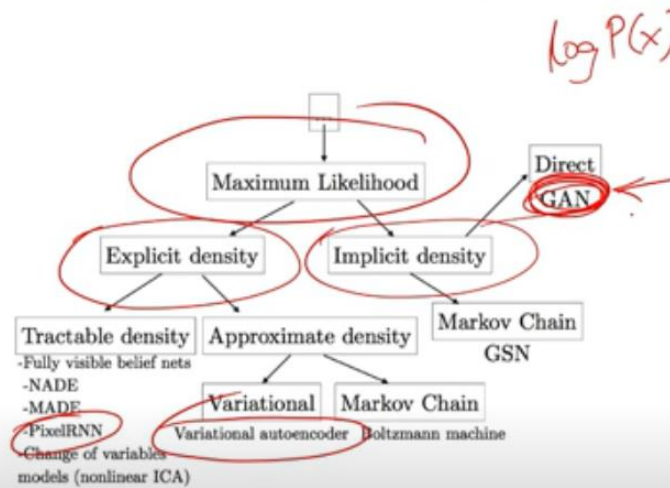


	RBM	VAE	AR models	GAN
Abstraction	Yes	Yes	No	No
Generation	Yes	Yes	Yes	Yes
Compute $P(X)$	Intractable	Intractable	Tractable	No
Sampling	MCMC	Fast	Slow	Fast
Type of GM	Undirected	Directed	Directed	Directed
Loss	KL-divergence	KL-divergence	KL-divergence	JSD
Assumptions	X independent given z	X independent given z	None	N.A.
Samples	Bad	Ok	Good	Good (best)

Table: Comparison of Generative Models

Recent works look at combining these methods: e.g. Adversarial Autoencoders (Makhzani 2015), PixelVAE (Gulrajani 2016) and PixelGAN Autoencoders (Makhzani 2017)



Source: Ian Goodfellow, NIPS 2016 Tutorial: Generative Adversarial Networks