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Generative models

$P(x) = $ input data의 분포

Generative Model = $P(x)$를 학습

Explicit density
$P(x)$를 계산하다

Tractable Density

e.g. Flow based

$$\int P(x)\, dx = \int \pi(z)\, dz = 1$$

$\vdots$

$$P(x) = \pi(f^{-1}(x))\left|\det \frac{df^{-1}}{dx}\right|$$

Approximate Density

e.g. VAE

$$(x) = \frac{P_\theta(x|z)\cdot P(z)}{P_\theta(z|x)}$$

$\vdots$

$$\log P_\theta(x) - ELBO + KL$$

Implicit density
$P(x)$를 계산하지 않음

e.g. GAN

$$\min_G V(D^*, G)$$
$$= -\log 4 + 2\cdot JSD(P_{data}\| P_g)$$