Siddharth Mishra-Sharma (MIT/IAIFI) | IAIFI Summer School



Diffusion models: overview

$x_{t-1} \sim p(x_{t-1} \mid x_t)$ Reverse process (denoising)



image $\sim p(\text{image} \mid \text{text prompt})$

Prompt: "A cat perched on an Ikea Poang chair"

Forward process (adding noise)

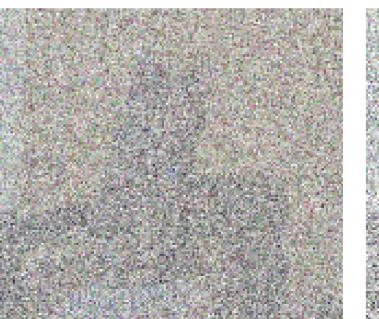
$$x(t=1) \sim \mathcal{N}(0,1)$$

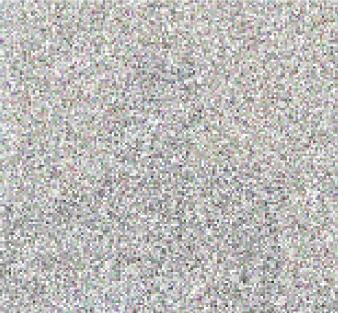












$x(t=0) \sim p(x)$



Diffusion models: overview

Forward process (adding noise)

$$x(t=0) \sim p(x)$$

$$x(t=1) \sim \mathcal{N}(0,1)$$

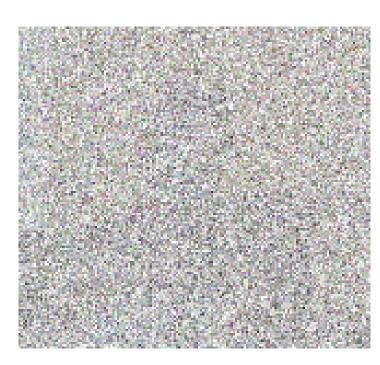












$$x_{t-1} \sim p(x_{t-1} \mid x_t)$$

Reverse process (denoising)

Prompt: "A cat perched on an Ikea Poang chair"

image $\sim p$ (image | text prompt)

Towards diffusion: hierarchical VAEs

