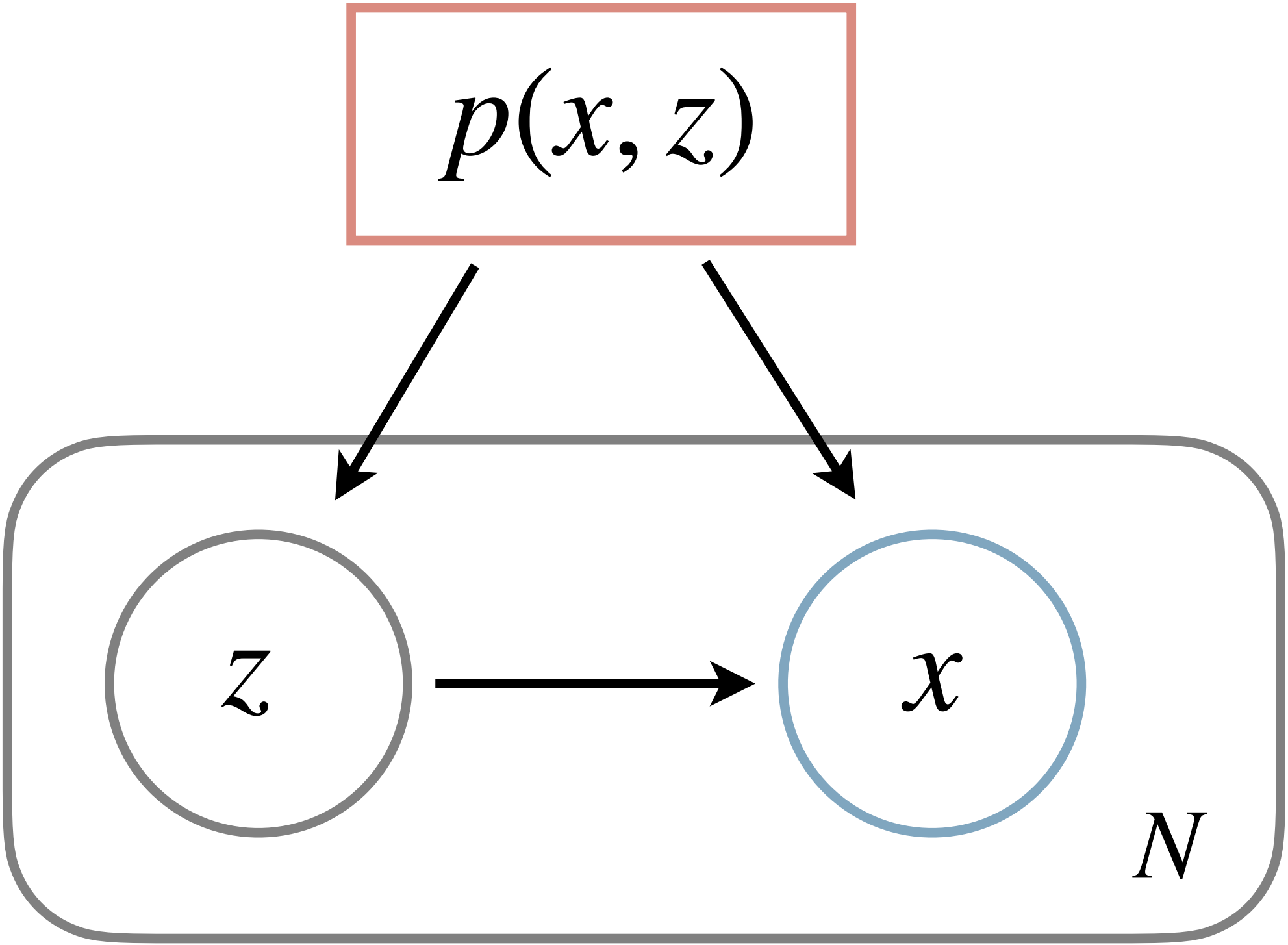
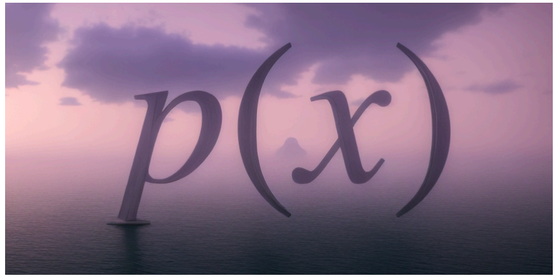
Outline


$p(x, z)$
z
x
N

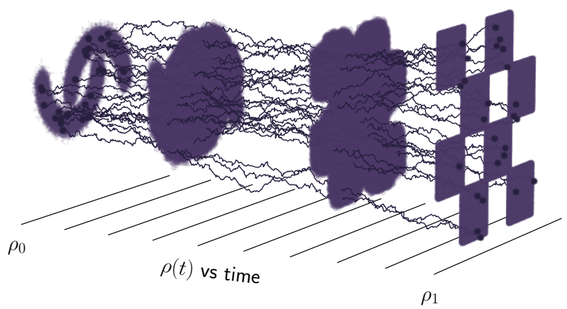
Variational auto encoders

Latent-variable modeling, and compression is all you need



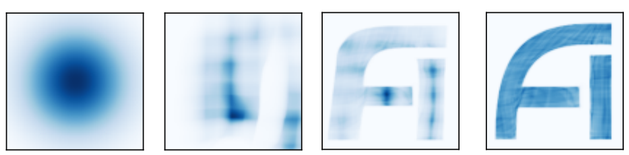
Why (deep) generative modeling?

What is it, and what can it do for you?



Diffusion models

Models based on iterative refinement



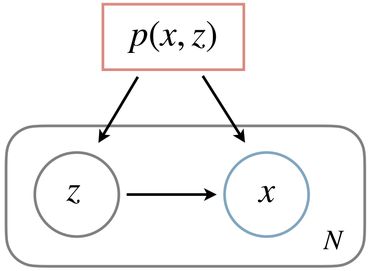
Normalizing flows (and some other models)

Invertible transformations

Outline

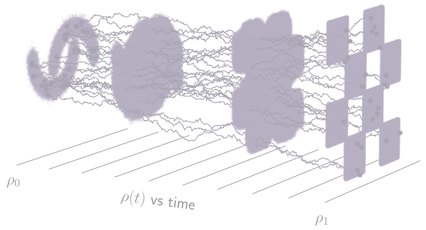
Why (deep) generative modeling?

What is it, and what can it do for you?



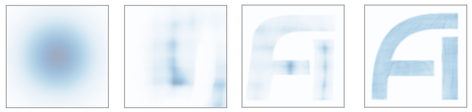
Variational auto encoders

Latent-variable modeling, and compression is all you need



Diffusion models

Models based on iterative refinement



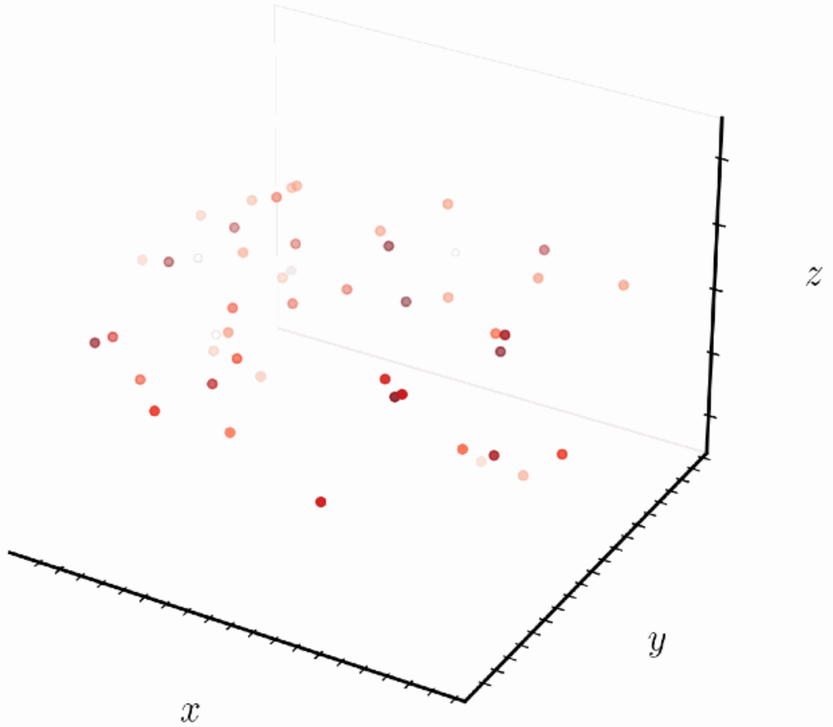
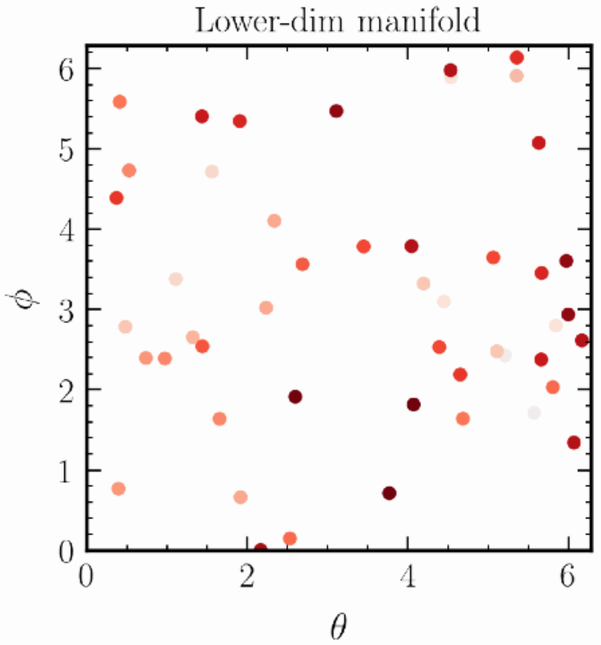
Normalizing flows (and some other models)

Invertible transformations

The pursuit of low-dimensional structure

Real-world datasets often live in structured low-dimensional manifolds

"Difficult to model" x



"Easy to model" z