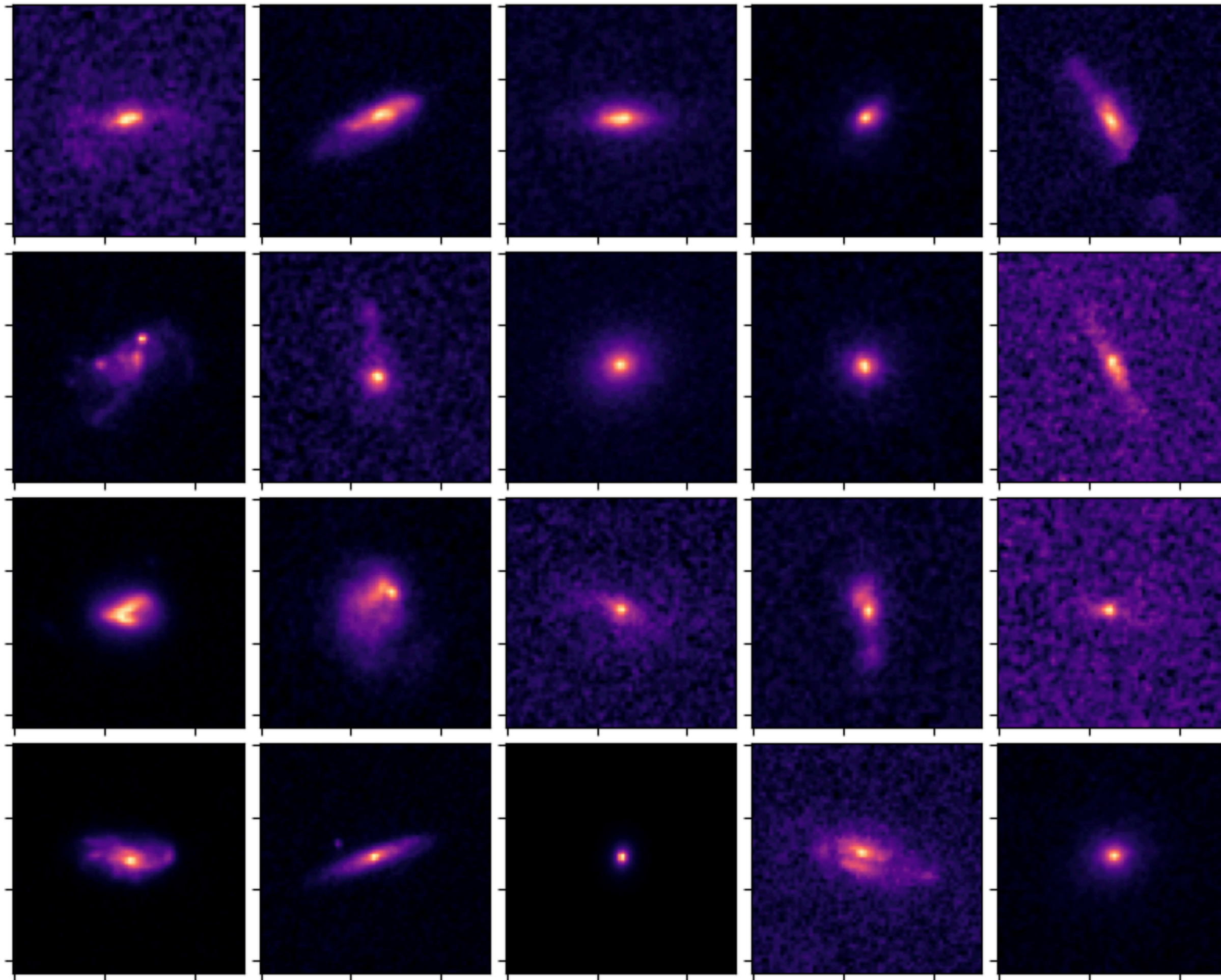


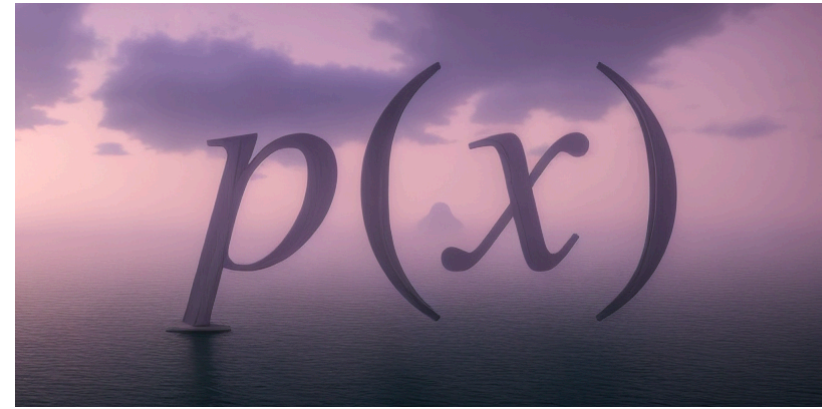
Tutorial Task 1



- Construct a VAE and use it to build a generative model of galaxy images using samples from the HST COSMOS dataset
- Boilerplate code for training/reconstruction/sampling for quick iteration
- Experiment with trade-offs between reconstruction quality and a disentangled latent space

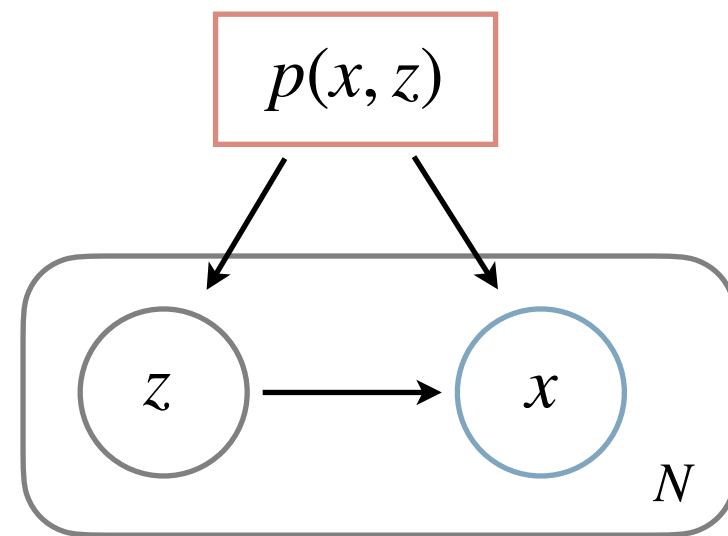
[Mandelbaum et al; <https://zenodo.org/record/3242143>]

Outline



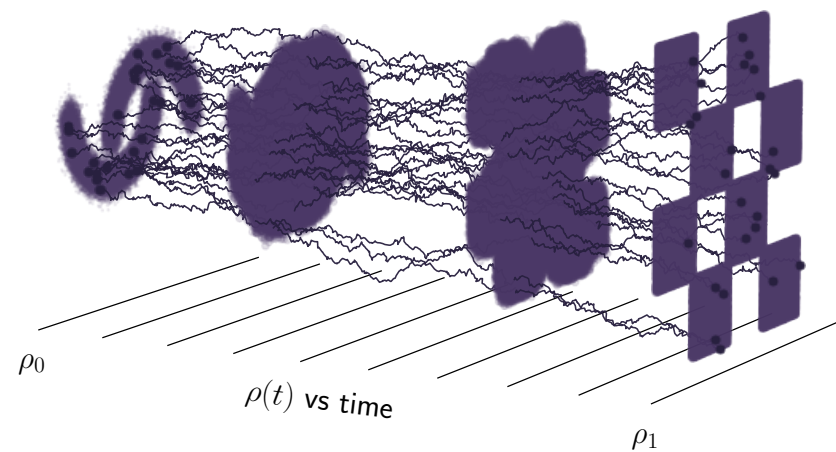
Why (deep) generative modeling?

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