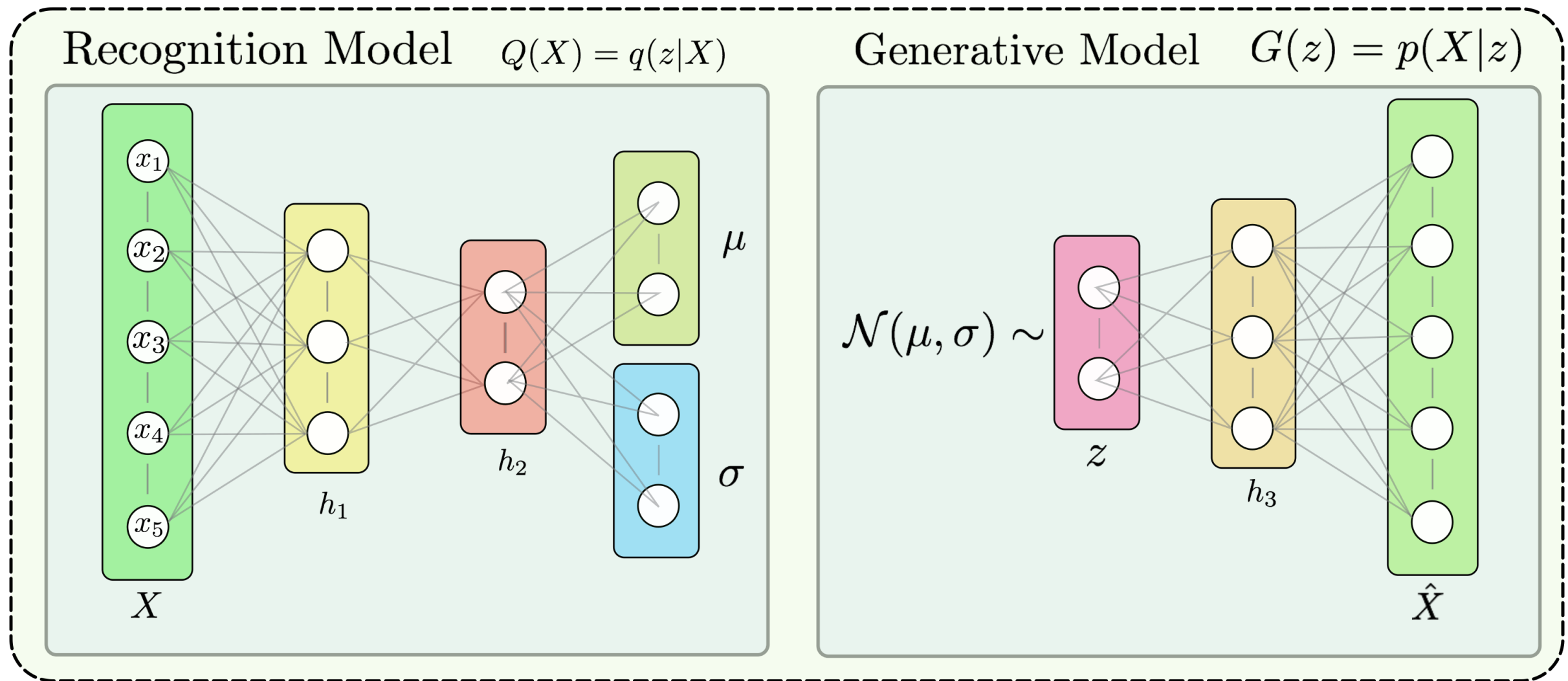


Variational Auto Encoder



Overserved Variable = X

- X can be Coupler Trajectories or Entire Linkage
- X is Generated by a Natural Process, involving an unobserved continuous hidden variable z

VAE

- Observed data is supposedly generated by an unknown function of continuous latent variables

$$X = G(z; \theta_g)$$

- We would like to infer these salient attributes z based on observed X ,

$$pr(z | X) = \frac{pr(X | z)pr(z)}{pr(X)},$$

← Intractable

- Recognition Model approximates $pr(z | X)$

$$\mu, \sigma = Q(X; \theta_e)$$

$$q(z | X) = \mathcal{N}(\mu, \sigma)$$