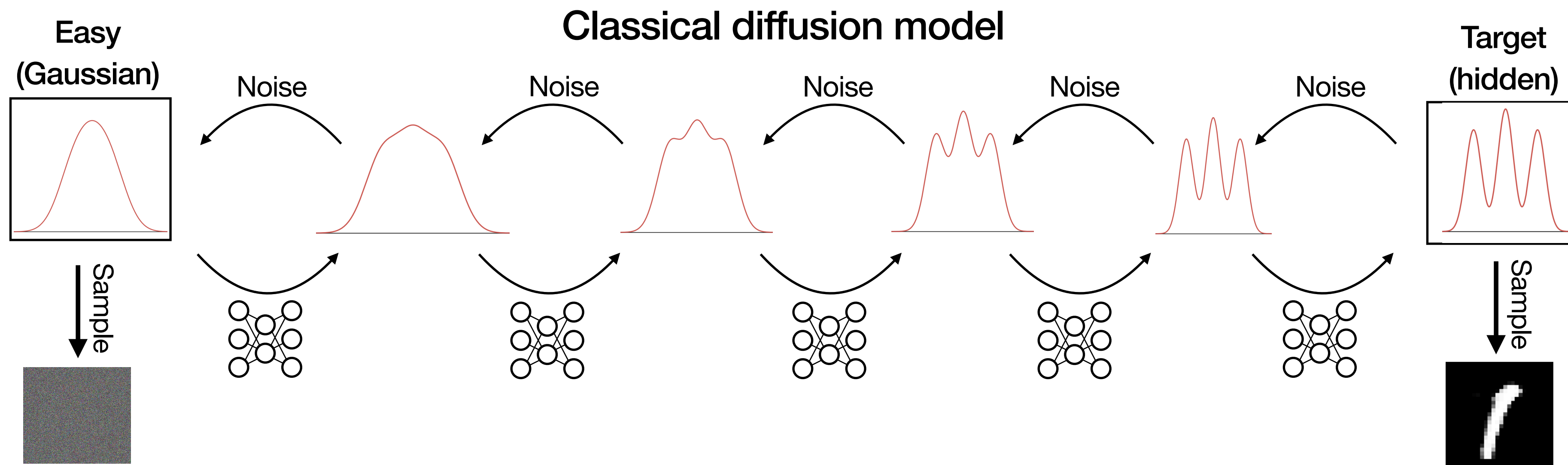
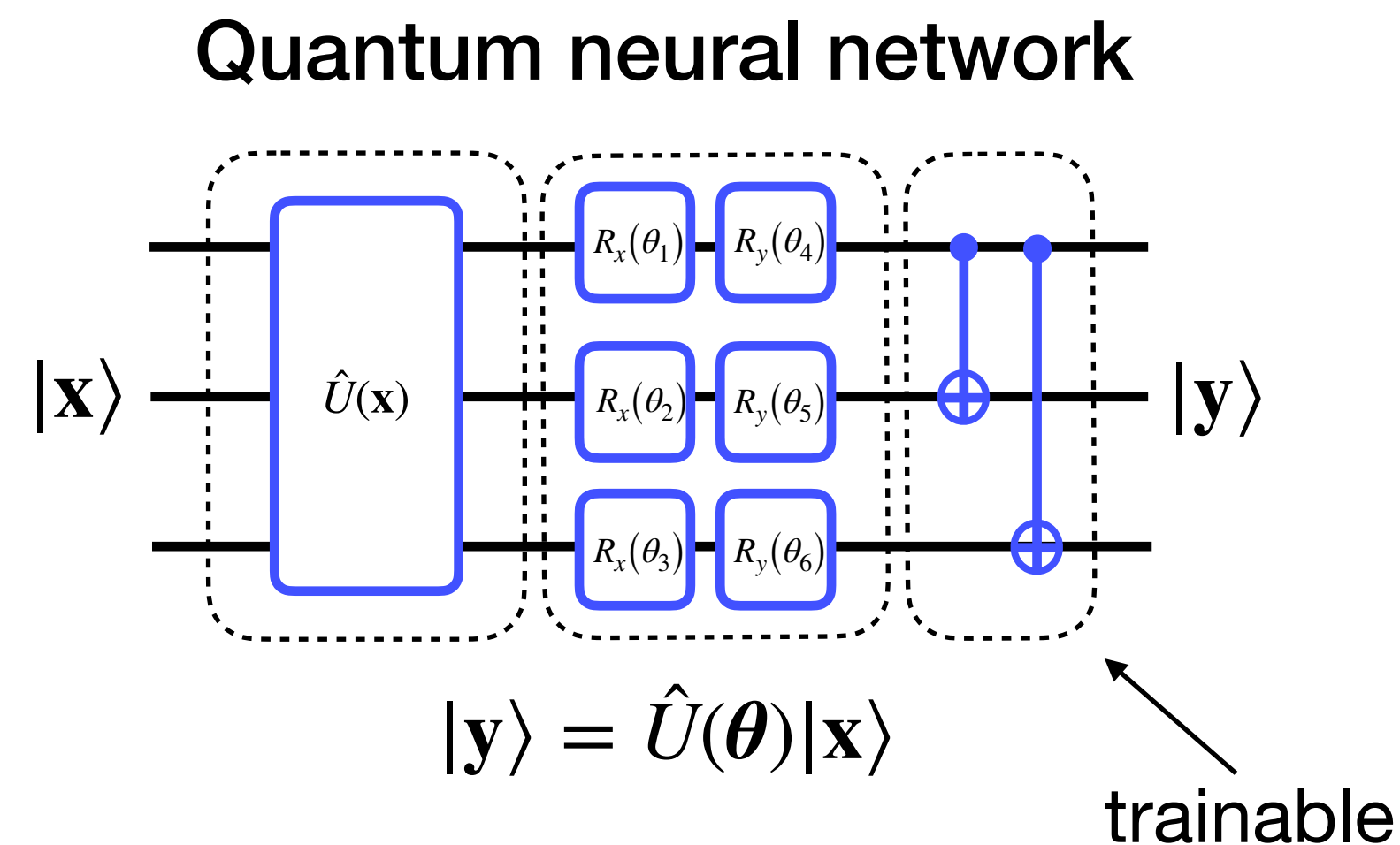
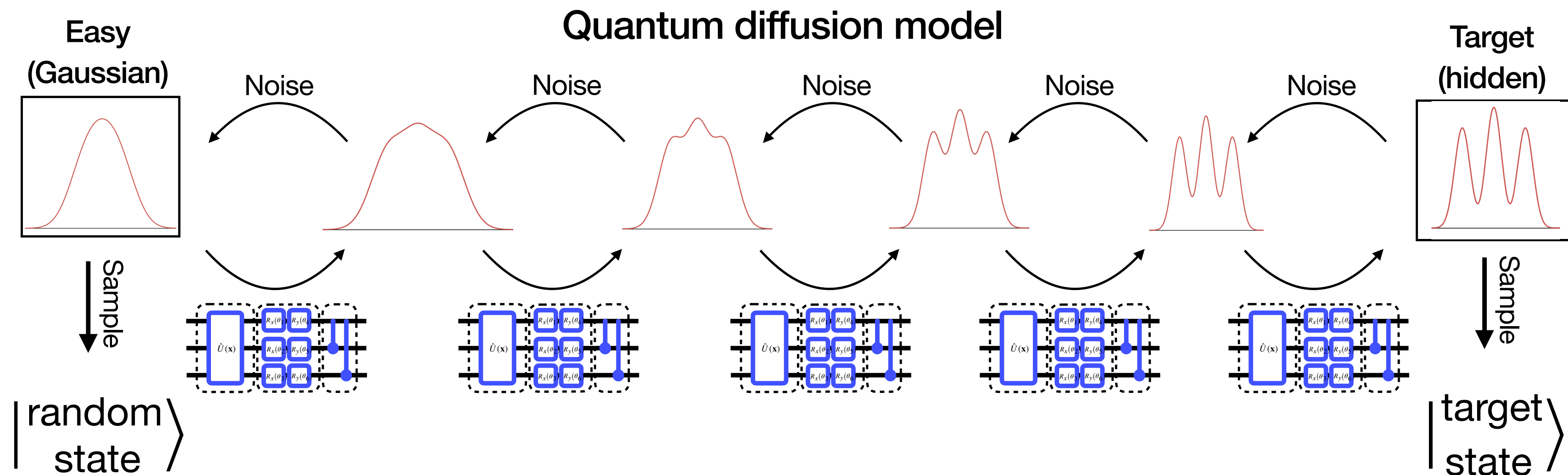
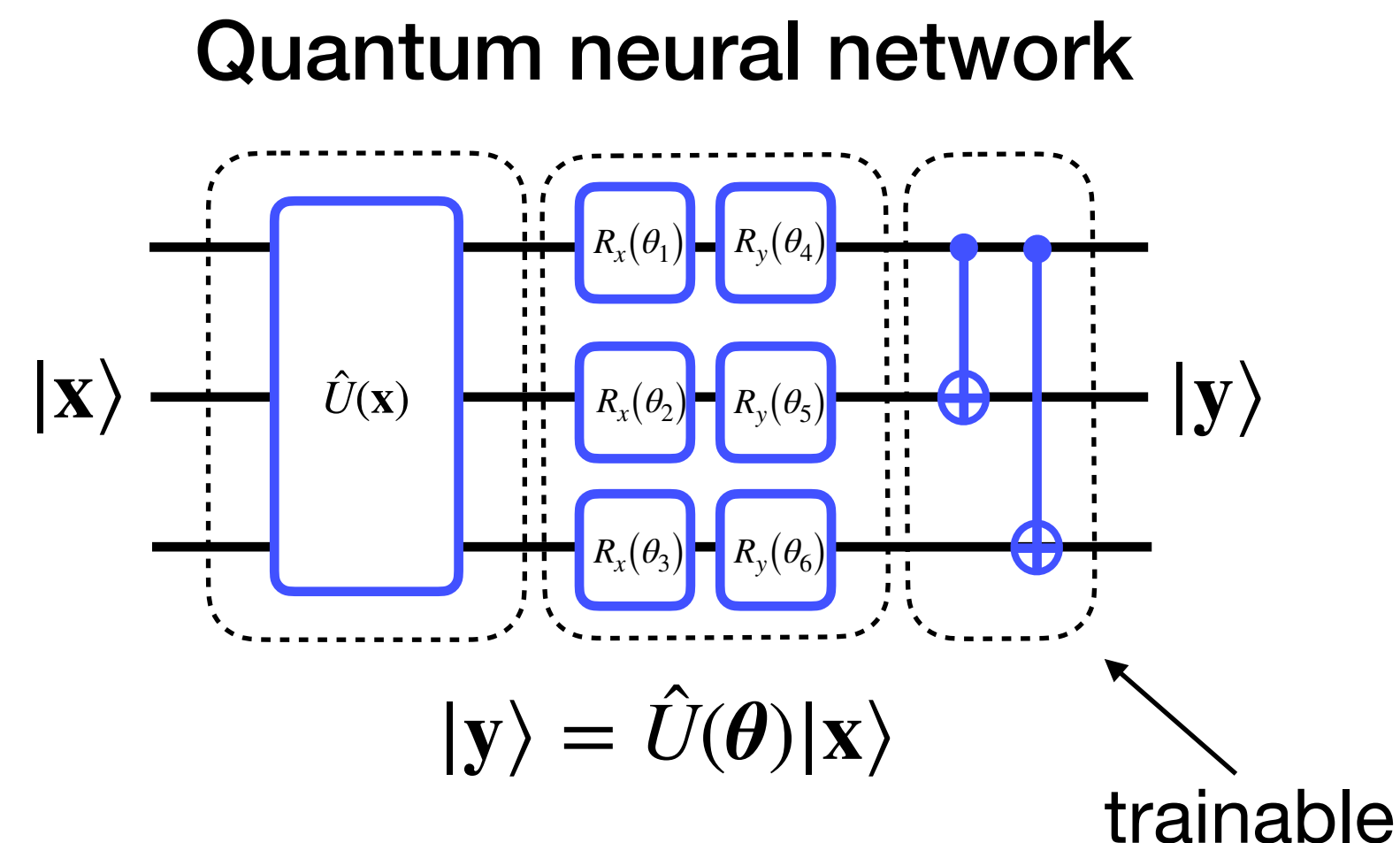


# Quantum diffusion model: ingredients

- **Generative model:** learn hidden distribution from samples
- **Diffusion model:** connect target distribution to Gaussian through Markov chain
- **Quantum neural network:** trainable transformation on quantum states



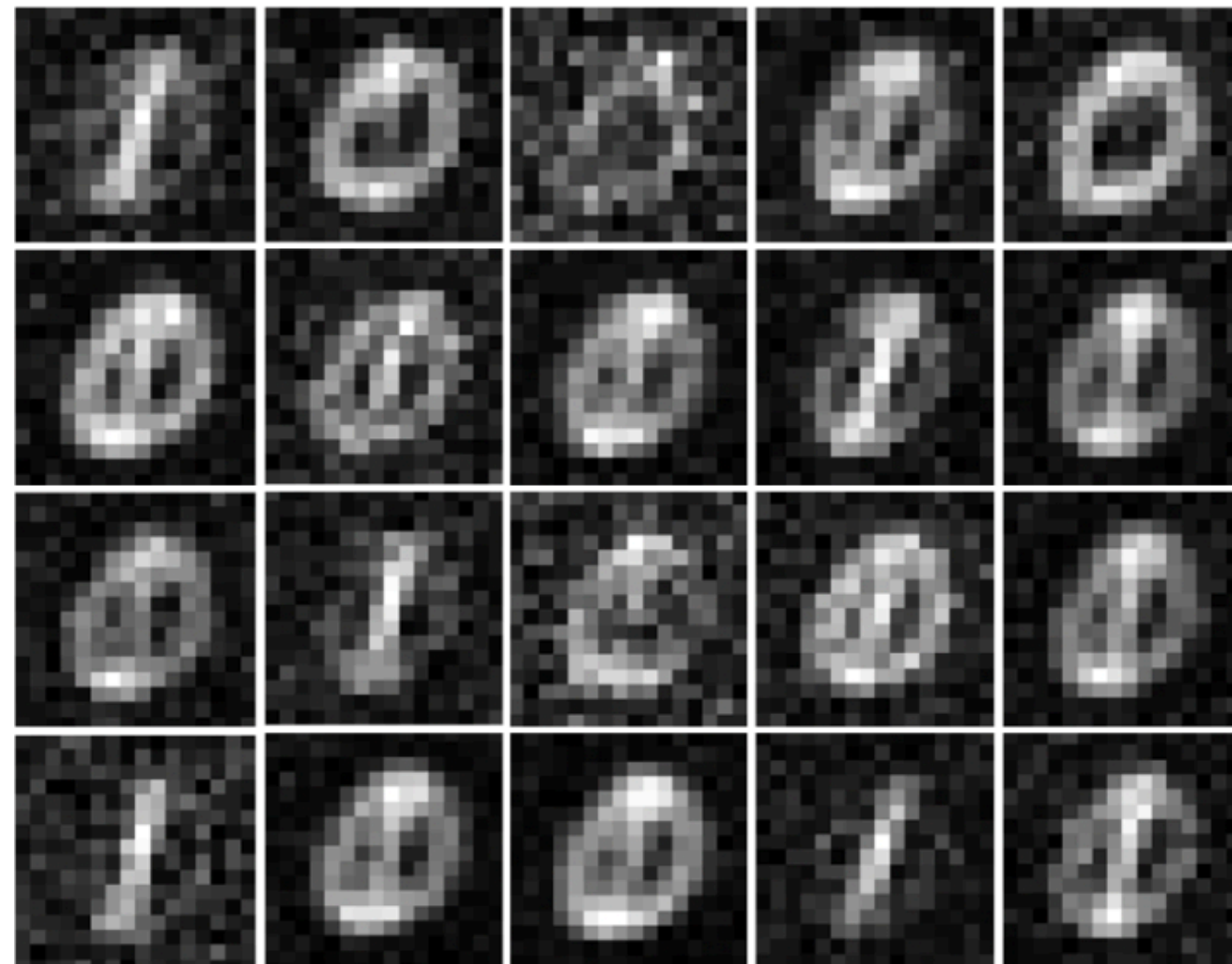
- **Generative model:** learn hidden distribution from samples
- **Diffusion model:** connect target distribution to Gaussian through Markov chain
- **Quantum neural network:** trainable transformation on quantum states



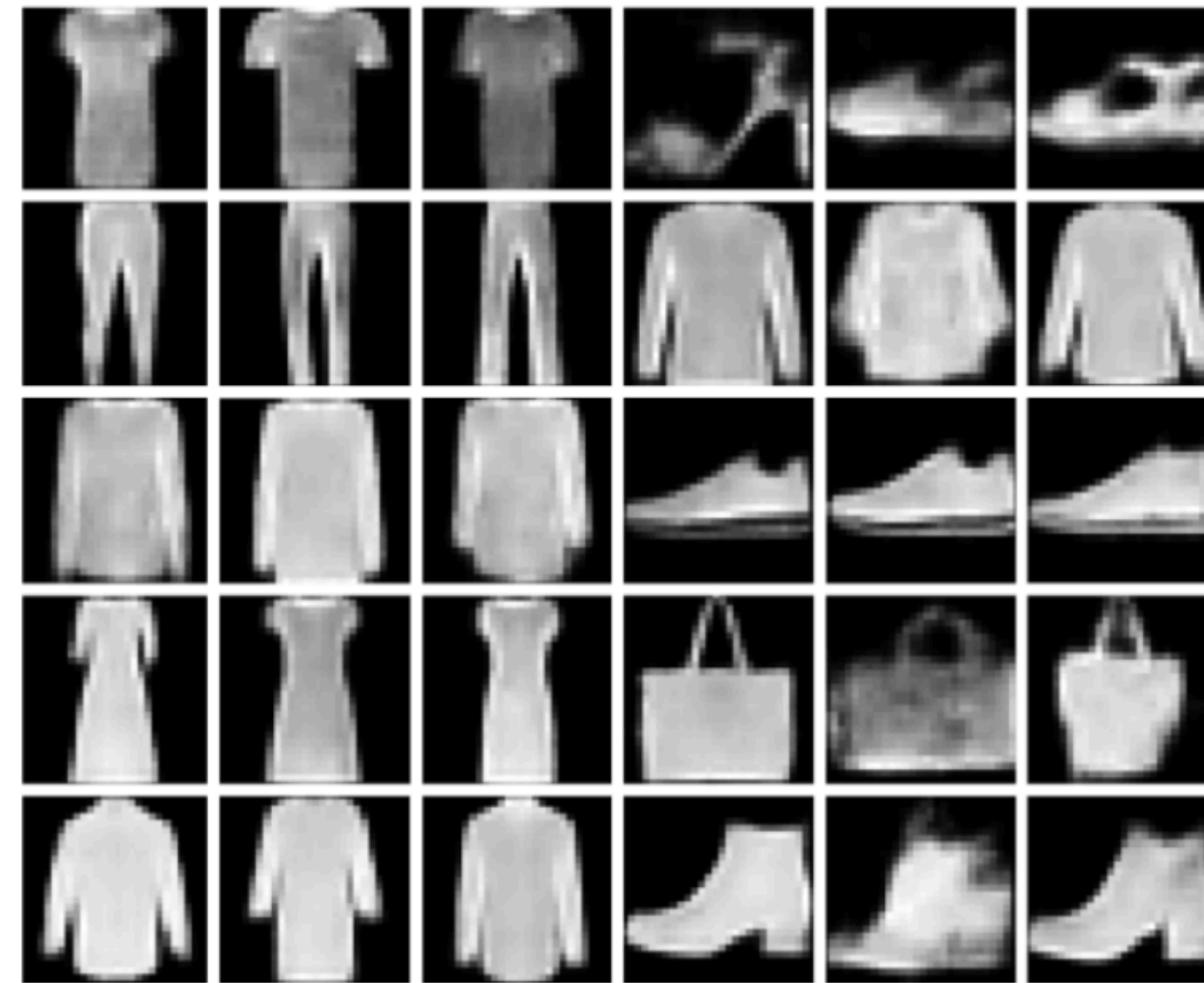
Poster stand 33

# Learned distributions

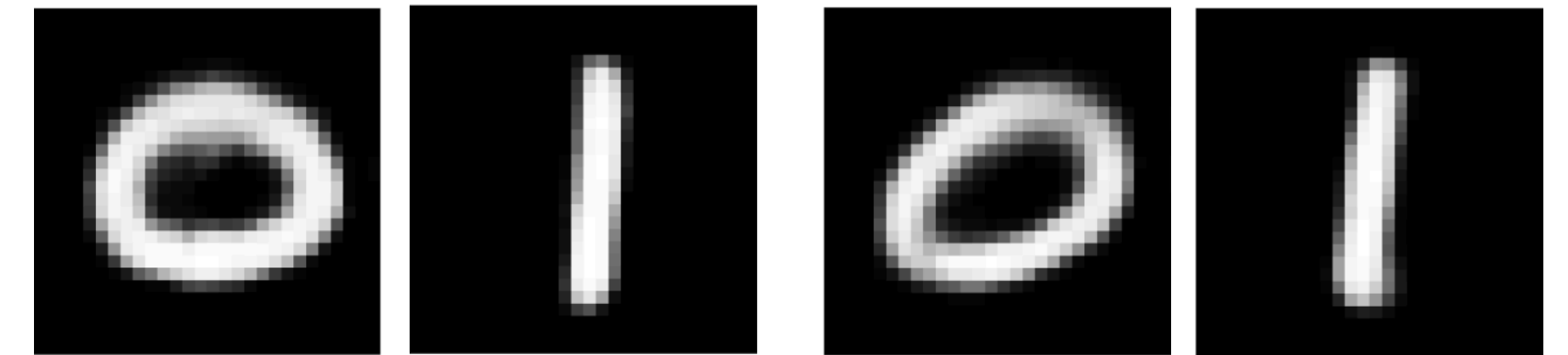
Quantum model  
(simulation)



Quantum model (simulation)  
+  
Classical autoencoder

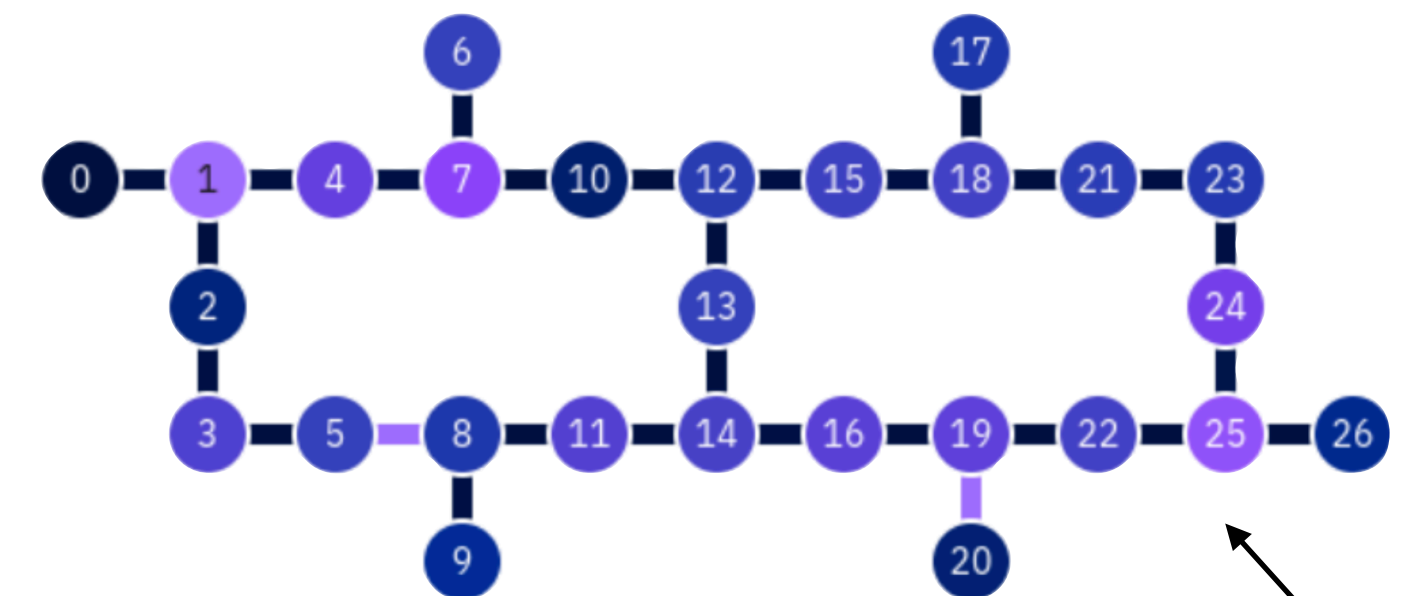


Quantum model (hardware)  
+  
Classical autoencoder



Simulated

Hardware



Quantum Chip  
(IBM Hanoi)