

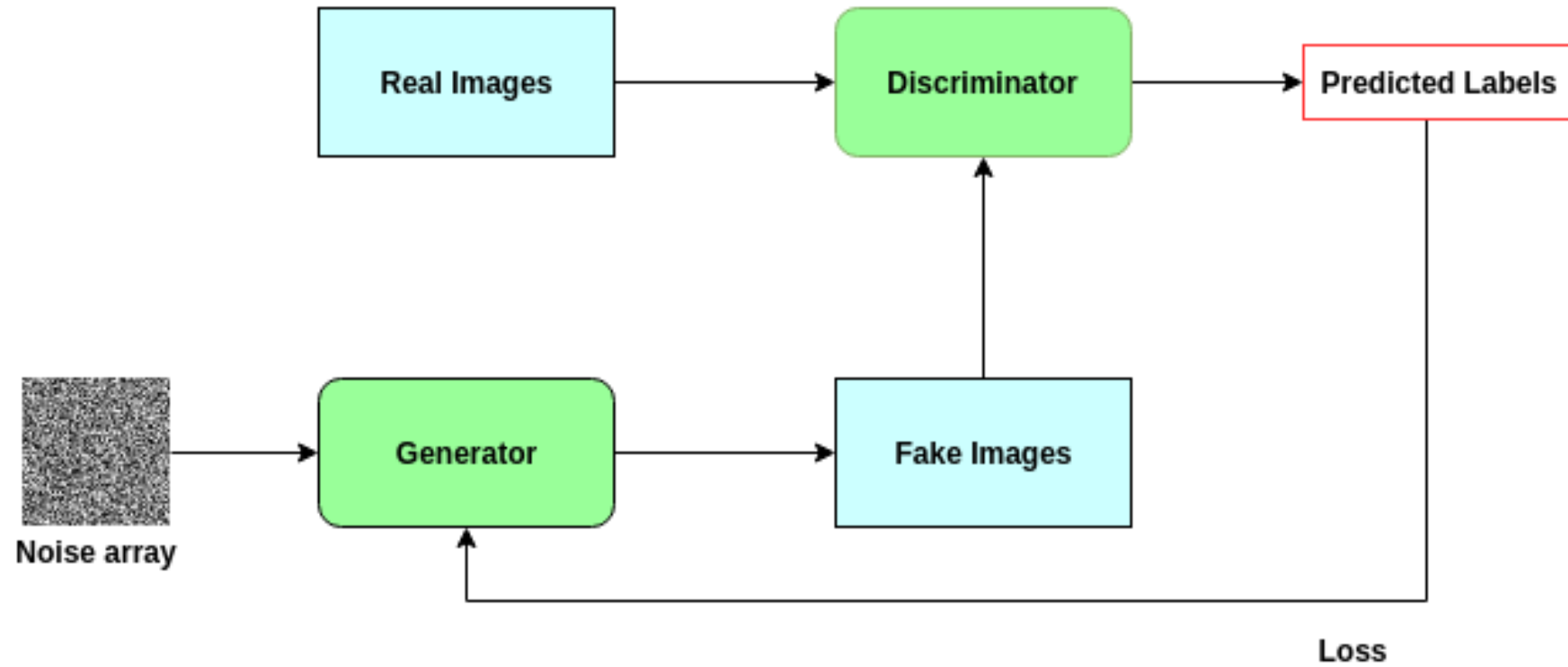


Generative AI

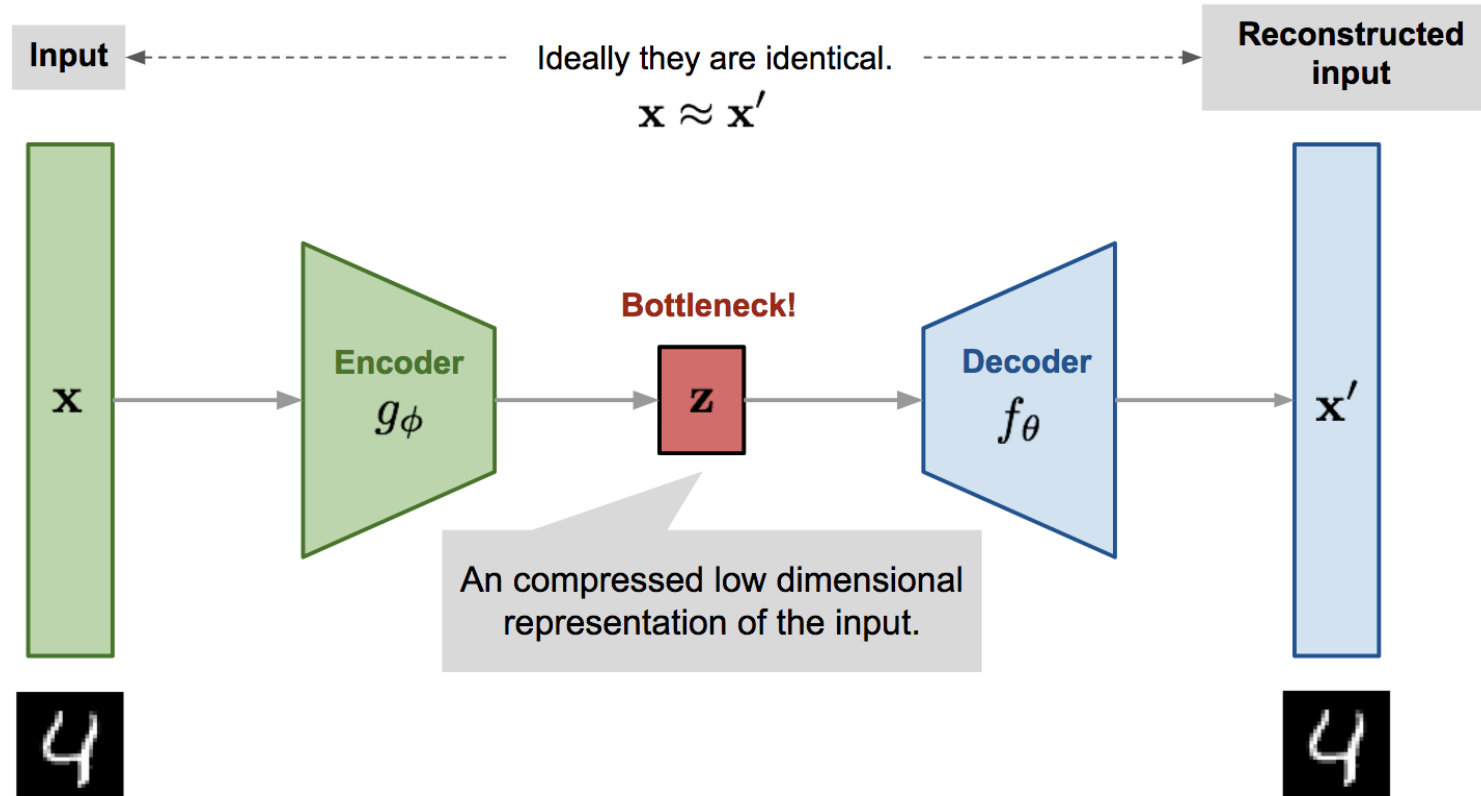
Overview

- Generative Adversarial Networks (GANs)
- Variational Autoencoders (VAEs)
- Transformer
- Diffusion models

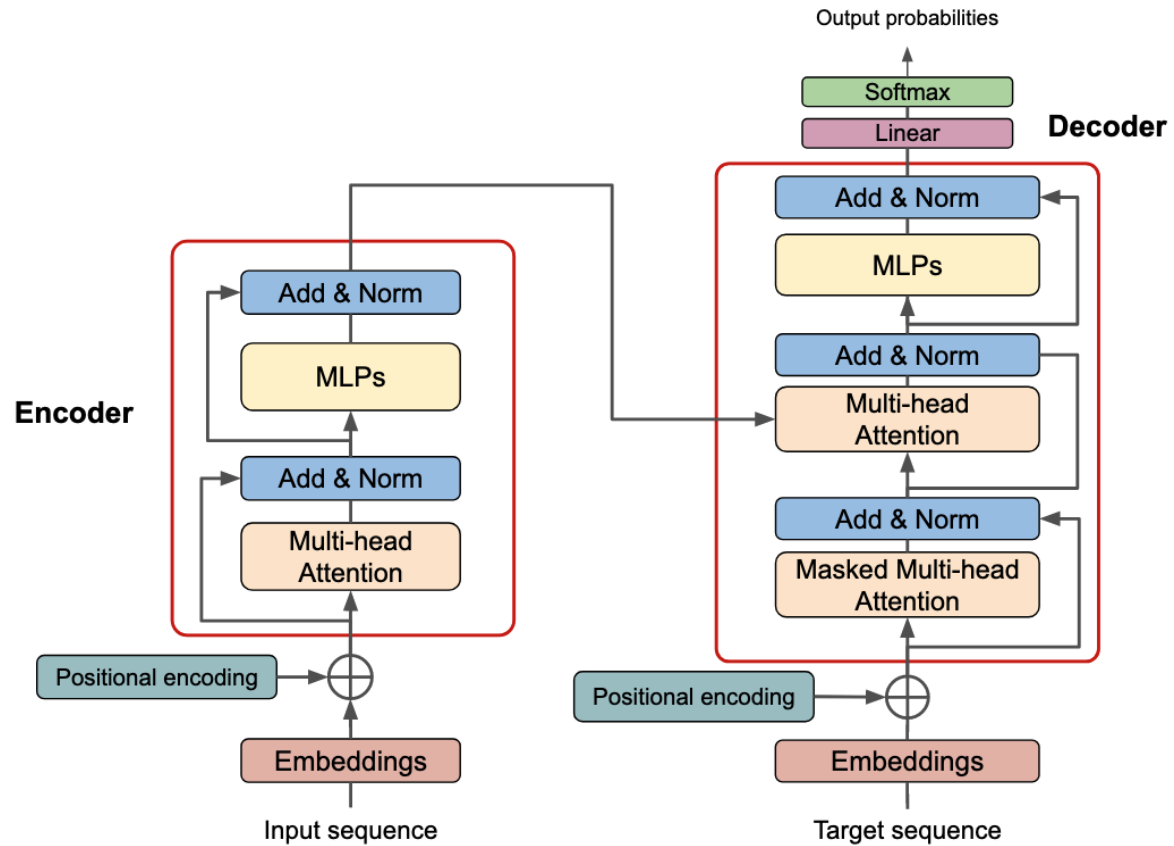
GAN



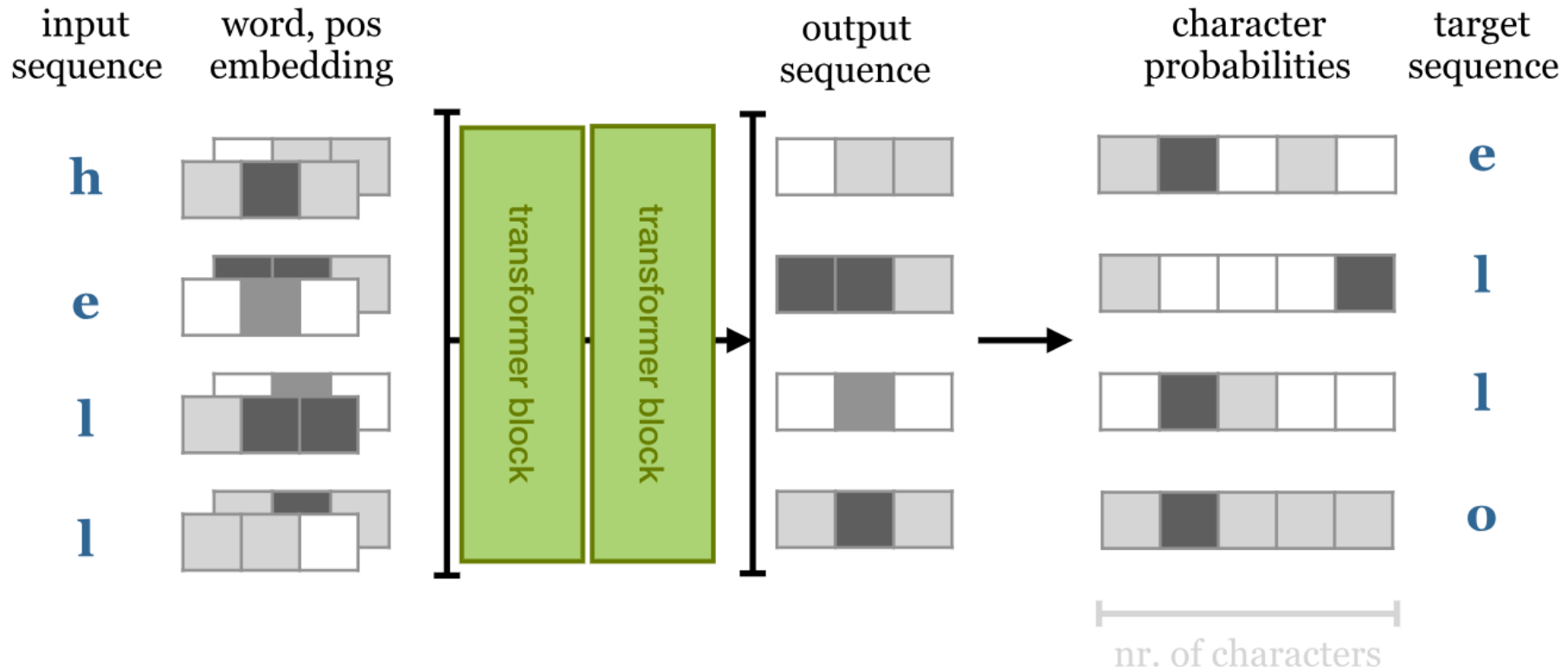
Variational Autoencoders



Transformer



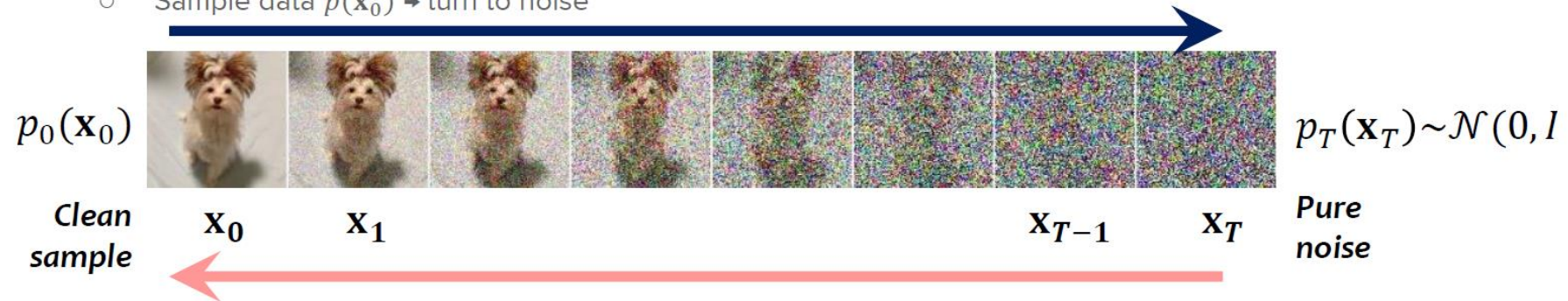
Transformer



Diffusion models

- **Forward / noising process**

- Sample data $p(\mathbf{x}_0) \rightarrow$ turn to noise



- **Reverse / denoising process**

- Sample noise $p_T(\mathbf{x}_T) \rightarrow$ turn into data