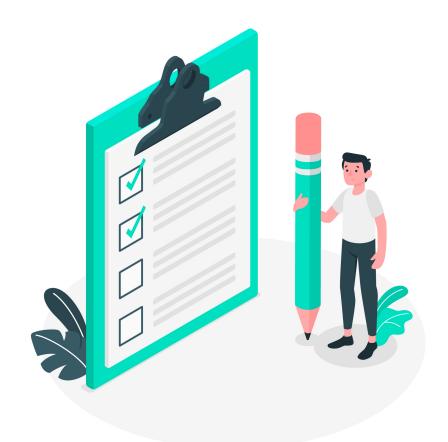


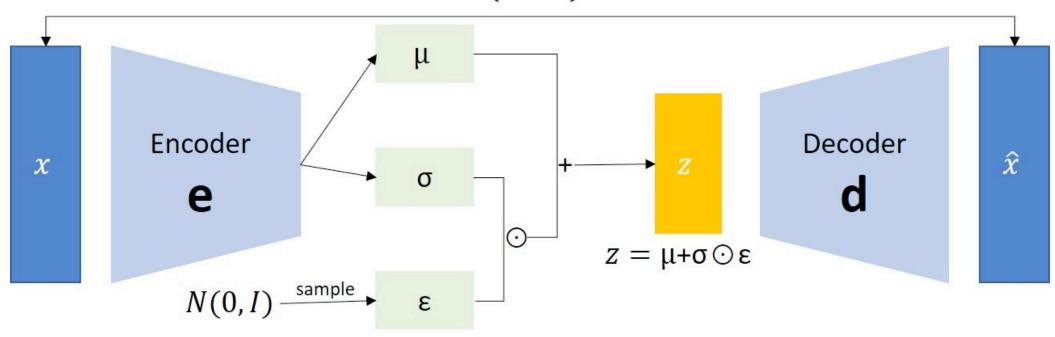


Let's implement an Autoencoder together, in images where they were born.





## Minimize 1: $(x - \hat{x})^2$



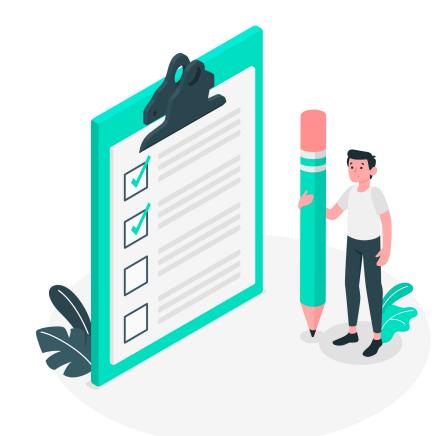
Minimize 2: 
$$\frac{1}{2}\sum_{i=1}^{N}(\exp(\sigma_i) - (1+\sigma_i) + \mu_i^2)$$





Let's implement a VAE together with text.

This is tough



## **Summary**



- AutoEncoders are Encoder Decoder models where the decoder is the inverse and of the encoder, trying to reconstruct the input
- We can use the decoder alone to generate similar inputs from the latent space
- They were (and are) extremely complex for text generation, that is why Transformers took the reign

