Regularized Codebook

e_1 e_2 e_3 ... e_K

$M(t)$

e_1 e_2 e_3

Updated Codebook

e_1 e_2 e_3 ... e_K

Ball-Bounded Norm Regularization

Encoder

$z_e(x)$

$$\arg\min_j \|\hat{z}_i(x) - \hat{e}_j\|_2$$

quantization

$z_q(x)$

8	3	2	25
43	31	25	4
5	12	9	52
15	24	2	14

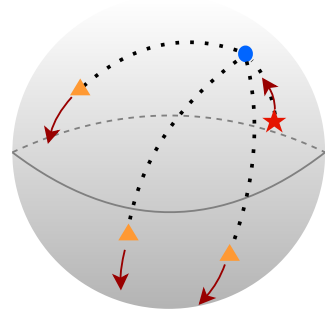Decoder

$\mathcal{L}_{\text{ArcLoss}}$

$\mathcal{L}_{\text{ArcLoss}}$

- codebook
- top-k nearest latent vectors
- latent vectors