

Neighbors

$$\mathcal{L}_{inter} = \frac{1}{C} \sum_{c_A=1}^C \frac{1}{|\mathbf{N}_{c_A}|} \sum_{c_B \in \mathbf{N}_{c_A}} \left[\text{CosS}(\mu_{c_A}, \mu_{c_B}) \right]$$

$$\mathcal{L}_{intra} = \frac{1}{C} \sum_{c=1}^C \frac{1}{E_c} \sum_{i=1}^{E_c} \left[1 - \text{CosS}(e_i, \mu_c) \right]$$

$$\text{CosS}(a, b) = \frac{a \cdot b}{\|a\|_2 \|b\|_2}$$

Chen, L., Strauch, M., & Merhof, D. *Instance Segmentation of Biomedical Images with an Object-Aware Embedding Learned with Local Constraints*. MICCAI 2019

Distance Regression Map

Distance Module

- Seeds for **Angular Clustering** are needed
- Distance module with additive MSE loss:

$$\mathcal{L}_{dist} = \frac{1}{n} \sum |x_i - y_i|^2$$

\nwarrow
DistTran(gt)

