Loss Function: Polar

Neighbours

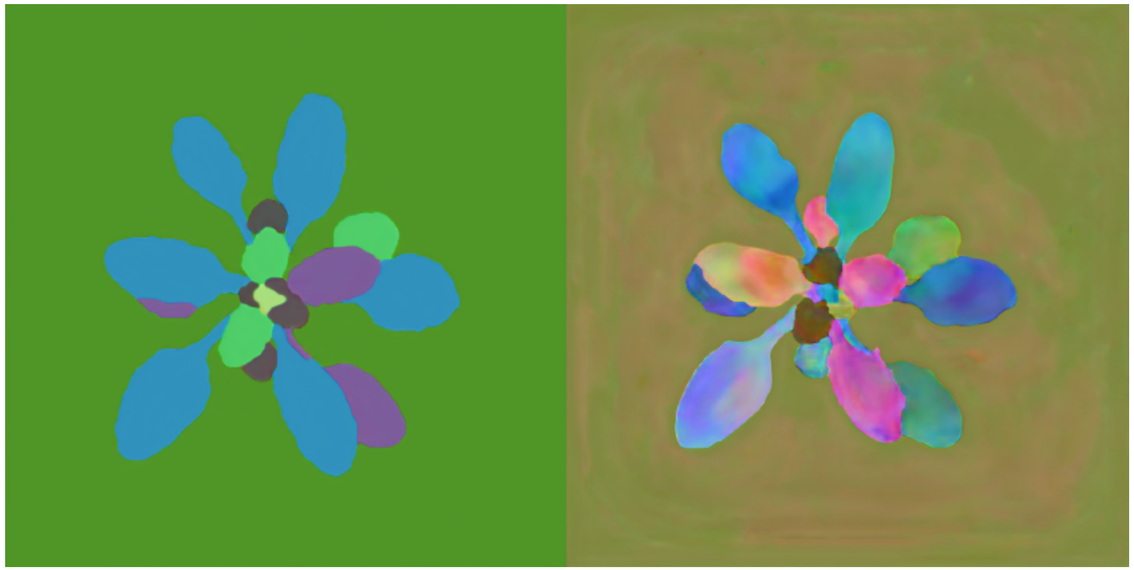
$$L_{inter} = \frac{1}{C} \sum_{c_A=1}^{C} \frac{1}{|\mathbf{N}_{c_A}|} \sum_{c_B \in \mathbf{N}_{c_A}} \left[\mathrm{CosS}(\mu_{c_A}, \mu_{c_B}) \right]$$

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

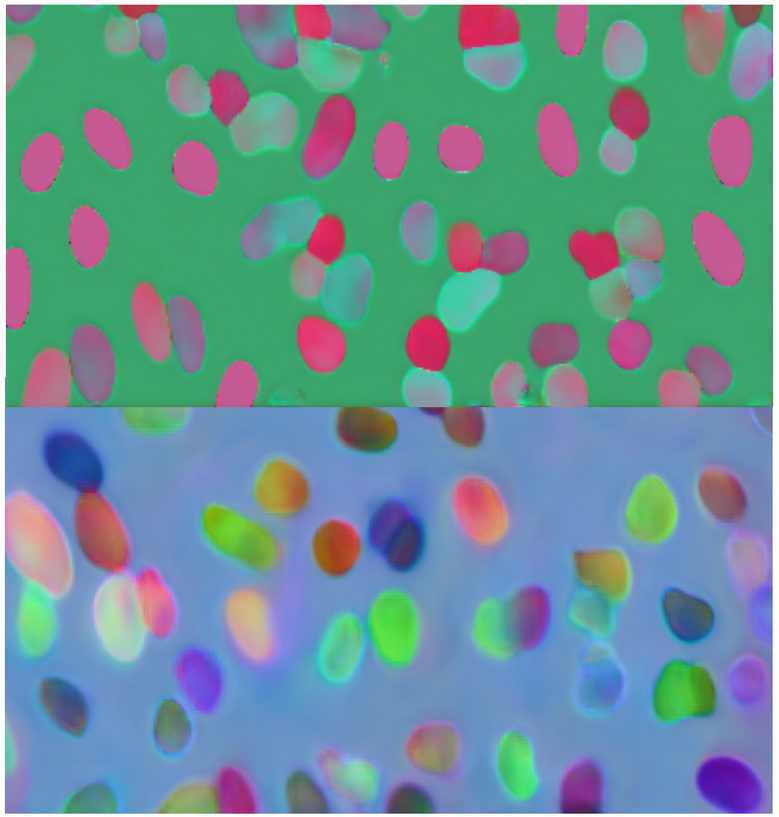
$$\mathrm{CosS}(a, b) = \frac{a \cdot b}{\|a\|_2 \, \|b\|_2}$$

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

Local vs. Global Constraints



Cosine Euclidean



Local

Global