Training report for StarDist 2D model (starDIST_WEEK1)
Date: 2023-04-12

Information for your materials and method:

The StarDist 2D model was trained for 100 epochs on 28 paired image patches (image dimensions: (256, 256), patch size: (256,256)) with a batch size of 2 and a mae loss function, using the StarDist 2D ZeroCostDL4Mic notebook (v 1.18) (von Chamier & Laine et al., 2021). The model was retrained from a pretrained model. Key python packages used include tensorflow (v 2.12.0), csbdeep (v 0.7.3), cuda (v 11.8.89

Build cuda_11.8.r11.8/compiler.31833905_0). The training was accelerated using a Tesla T4 GPU.

Augmentation: No augmentation was used for training.

Parameters

Default Advanced Parameters were enabled

Parameter	Value
number_of_epochs	100
patch_size	256x256
batch_size	2
number_of_steps	15
percentage_validation	10
n_rays	32
grid_parameter	2
initial_learning_rate	0.0003

Training Dataset

Training_source: /content/gdrive/MyDrive/StarDist/brightfield

Model Path: /content/gdrive/MyDrive/StarDist/model/starDIST_WEEK1

Example Training pair

Training source

Training target
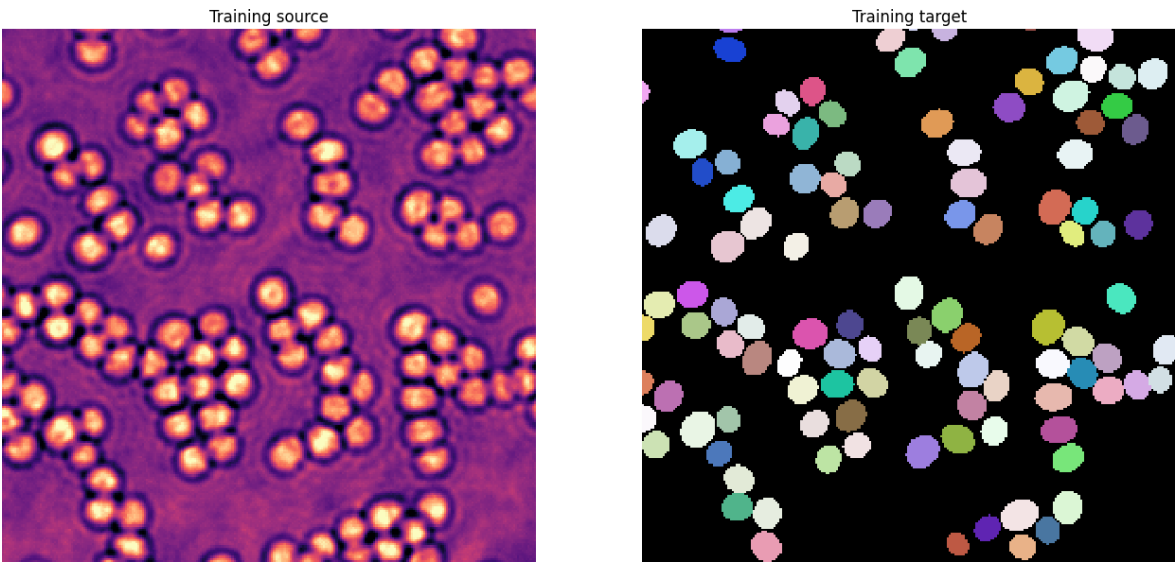
References:

 - ZeroCostDL4Mic: von Chamier, Lucas & Laine, Romain, et al. "Democratising deep learning for microscopy with ZeroCostDL4Mic." Nature Communications (2021).

- StarI
Image

Important:
Remember to perform the quality control step on all newly trained models
Please consider depositing your training dataset on Zenodo