Training report for StarDist 2D model (Stardist_4upSampling_100epochs)
Date: 2024-05-16

Training time: 0.0hour(s) 12.0min(s) 12sec(s)

Information for your materials and method:

The StarDist 2D model was trained for 100 epochs on 20 paired image patches (image dimensions: (9216, 9216), patch size: (512,512)) with a batch size of 10 and a mae loss function, using the StarDist 2D ZeroCostDL4Mic notebook (v 1.19.1) (von Chamier & Laine et al., 2021). The model was retrained from a pretrained model. Key python packages used include tensorflow (v 2.14.0), csbdeep (v 0.7.4), cuda (v 11.6.124 Build cuda_11.6.r11.6/compiler.31057947_0). The training was accelerated using a GPU.

Augmentation: No augmentation was used for training.

Parameters

The following parameters were used for training:

| Parameter	Value
number_of_epochs	100
patch_size	512x512
batch_size	10
number_of_steps	50
percentage_validation	10
n_rays	32
grid_parameter	2
initial_learning_rate	0.0001

Training Dataset

Training_source: /localscratch/exceptionals/train_images2D_sanitized/images_upsampled

Training_target: /localscratch/exceptionals/train_images2D_sanitized/masks_upsampled

Model Path: /localscratch/exceptionals/Stardist_4upSampling_100epochs

Example Training pair

Training source / Training target
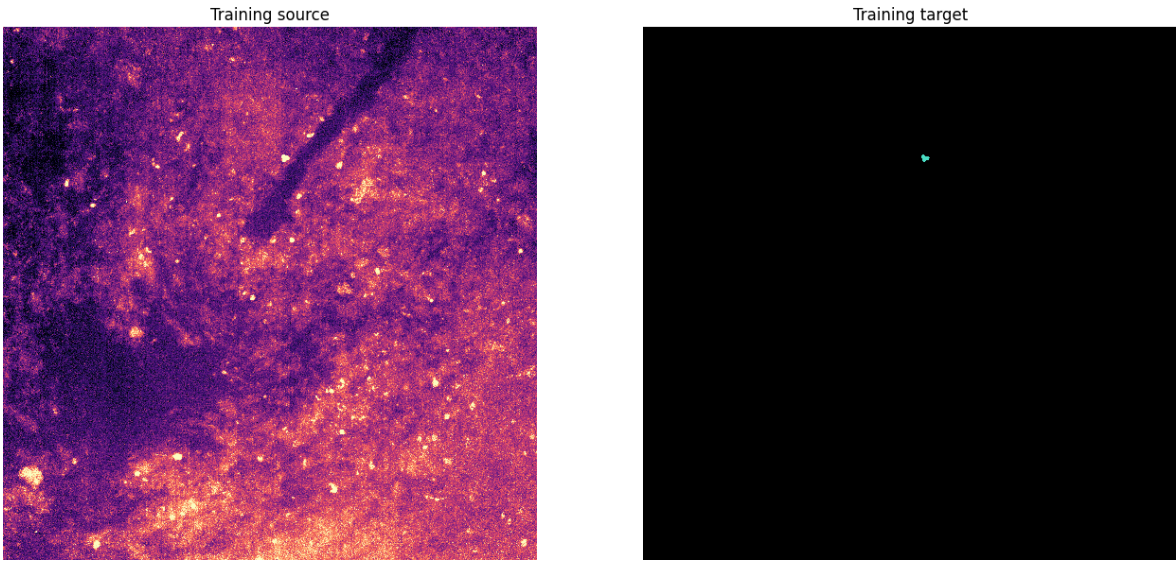
References:

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

- StarDist 2D: Schmidt, Uwe, et al. "Cell detection with star-convex polygons." International Conference on Medical Image Computing and Computer-Assisted Intervention. Springer, Cham, 2018.

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