**TRAIN U-NET – 12/01/2021**

**Input:**

A directory, named as you like (e.g. ‘hela’), stored in

CellContactNetwork > Unet Master multiclass > data

This folder contains:

* A set of training images (512x512), stored in

data > hela > train > image (change ‘hela’ to your folder name).

* A set of training labels, stored in

data > hela > train > label

* A set of test images, stored in

data > hela > test

Images must be named ‘0.png’, ‘1.png’, ‘2.png’, etc.

Example of a training image and training label of HeLa boundaries:

A picture containing invertebrate, colorful

Description automatically generated![White lines on a black background

Description automatically generated with medium confidence]()

**Outputs:**

* Trained U-Net model as .hdf5 file, stored in

CellContactNetwork > Unet Master multiclass > models

* Training history (stored in the same folder). Use the code plotTrainingLoss.py to plot the training history.

**Code:**

* main.py: script to run.
* model.py: contains U-Net model (implemented in keras).
* data.py: contains functions to prepare data.

These python files are stored in

CellContactNetwork > Unet Master multiclass

**How to run it**

* Open the Anaconda prompt.
* Activate tenv (= tensorflow environment) with the command

Conda activate tenv

If you have not yet created the virtual environment, see manual createVirtualEnv.

* Open spyder by typing spyder in the anaconda prompt and pressing enter.
* Open main.py by dragging the file into the spyder console.
* Fill in the parameters:

Text

Description automatically generated