

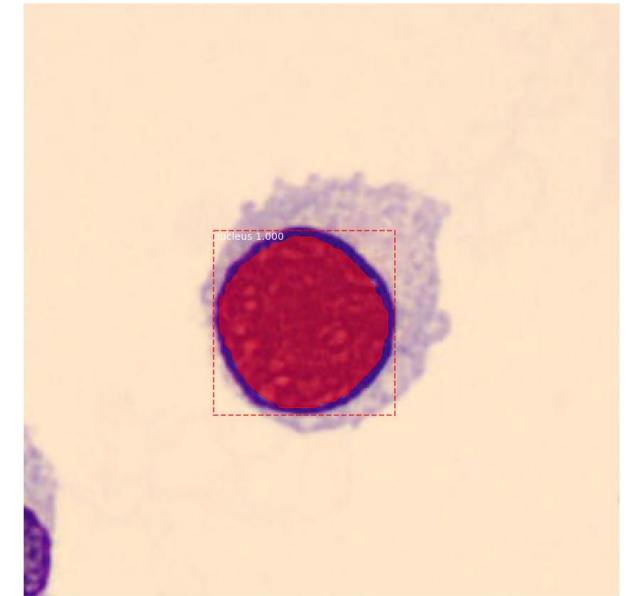
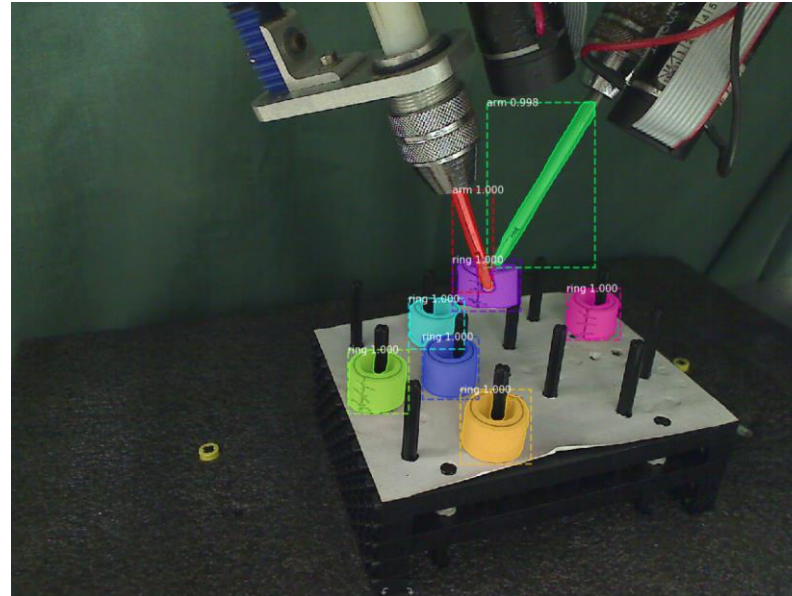
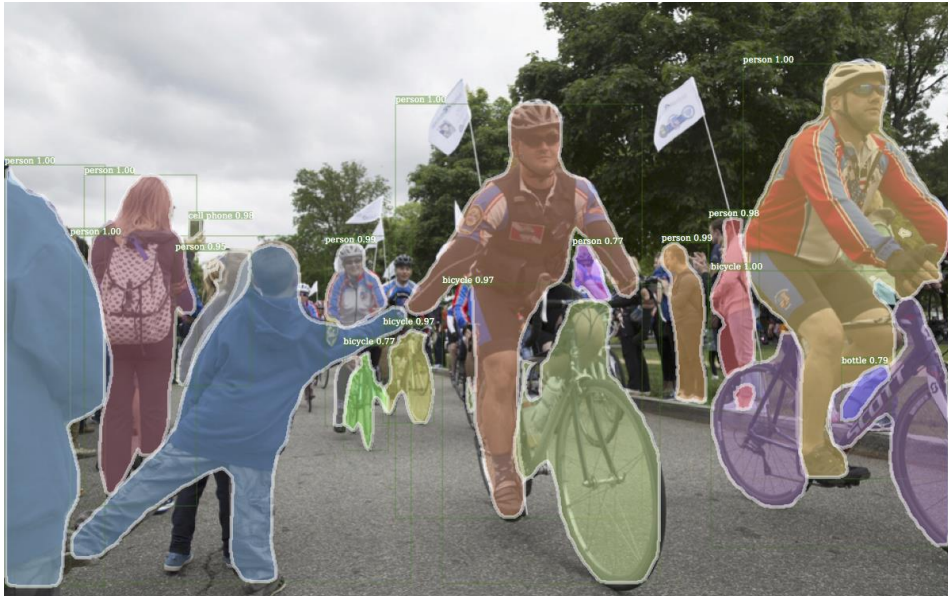
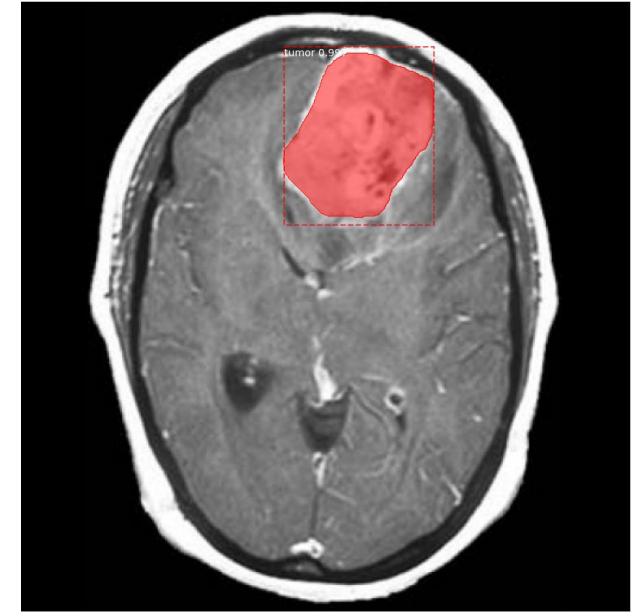
MaskRCNN

Inheriting the algorithm MaskRCNN of FasterRCNN, it improves the original architecture and adds the part of Semantic Segmentation, which can segment, detect and classify objects. It is a fairly classic Segmentation algorithm.

Version 20230223

Applications

- The Mask R-CNN algorithm can be applied to medical image analysis, fish image analysis, biological image analysis, advanced driver assistance systems, autonomous vehicles, factory defect detection, mask detection, satellite image segmentation, etc.



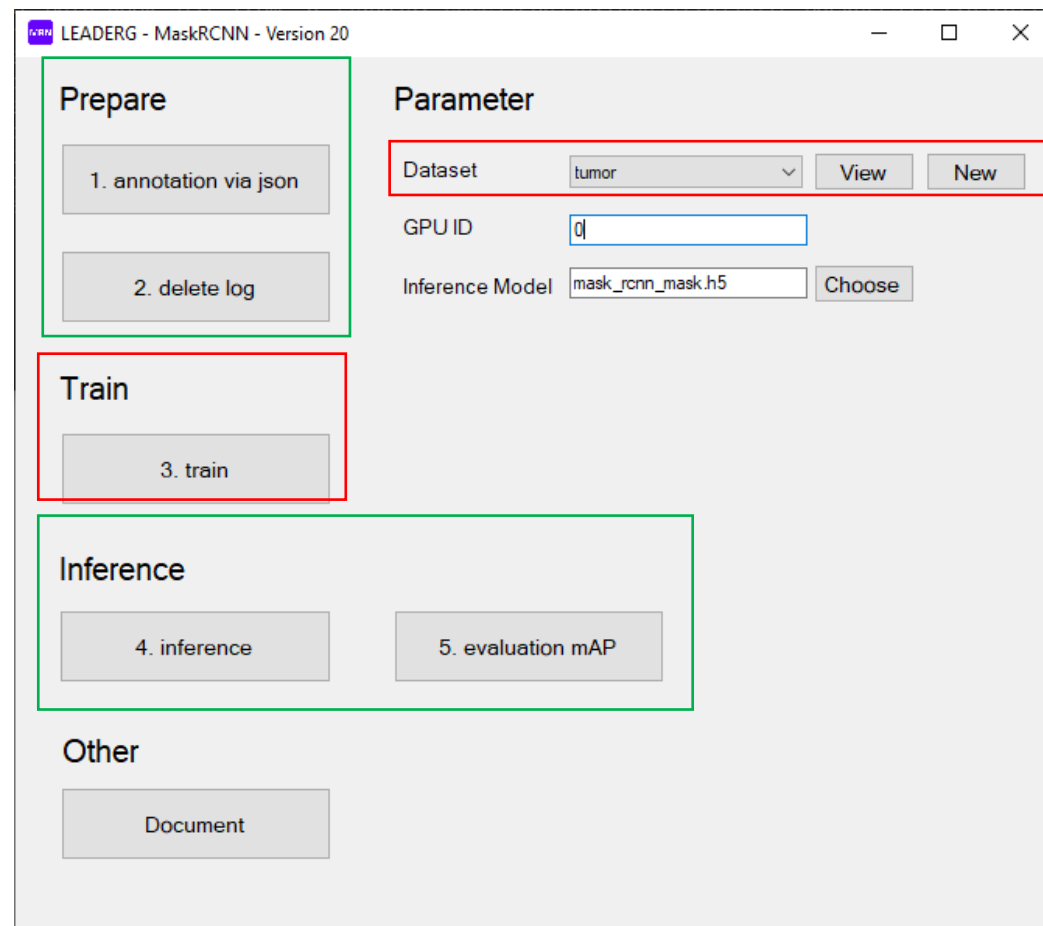
How to use

The main process is:

Select dataset -> preprocessing

(prepare images, label images) ->

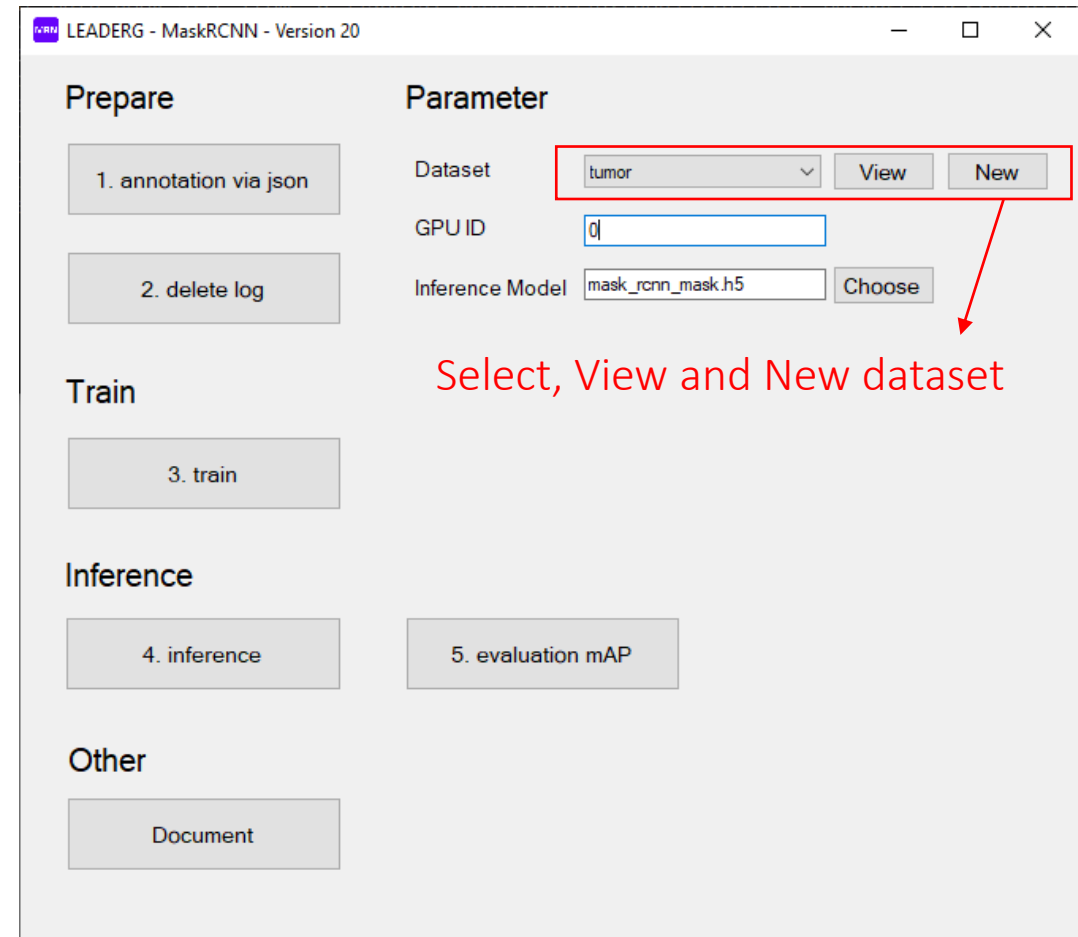
training -> inference images



Select dataset

Select the dataset to train or infer.

- The "View" button next to the pull-down menu can open the data folder location, which is convenient for users to confirm and modify.
- If you want to create a new dataset by yourself, please press the "New" button, enter the dataset name in the pop-up window (only English and numbers can be used as the dataset name), and press "OK" to complete the creation, that is The name you just entered can be found in the pull-down menu.



1. annotation via json

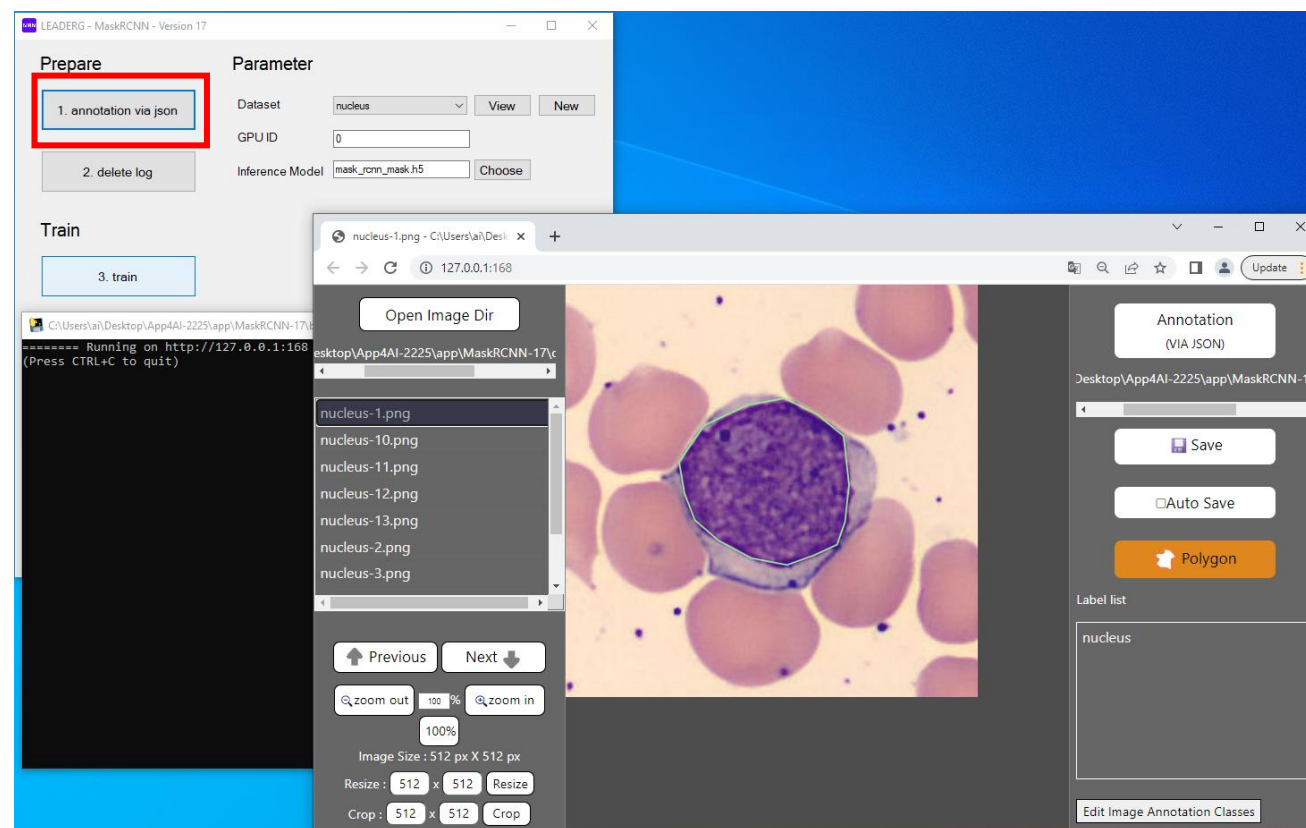
After running, it will open the annotation webpage for image annotation.

only image formats with file extension .jpeg or .jpg or .png are supported, and images can be cropped, resized, and labeled.

Note:

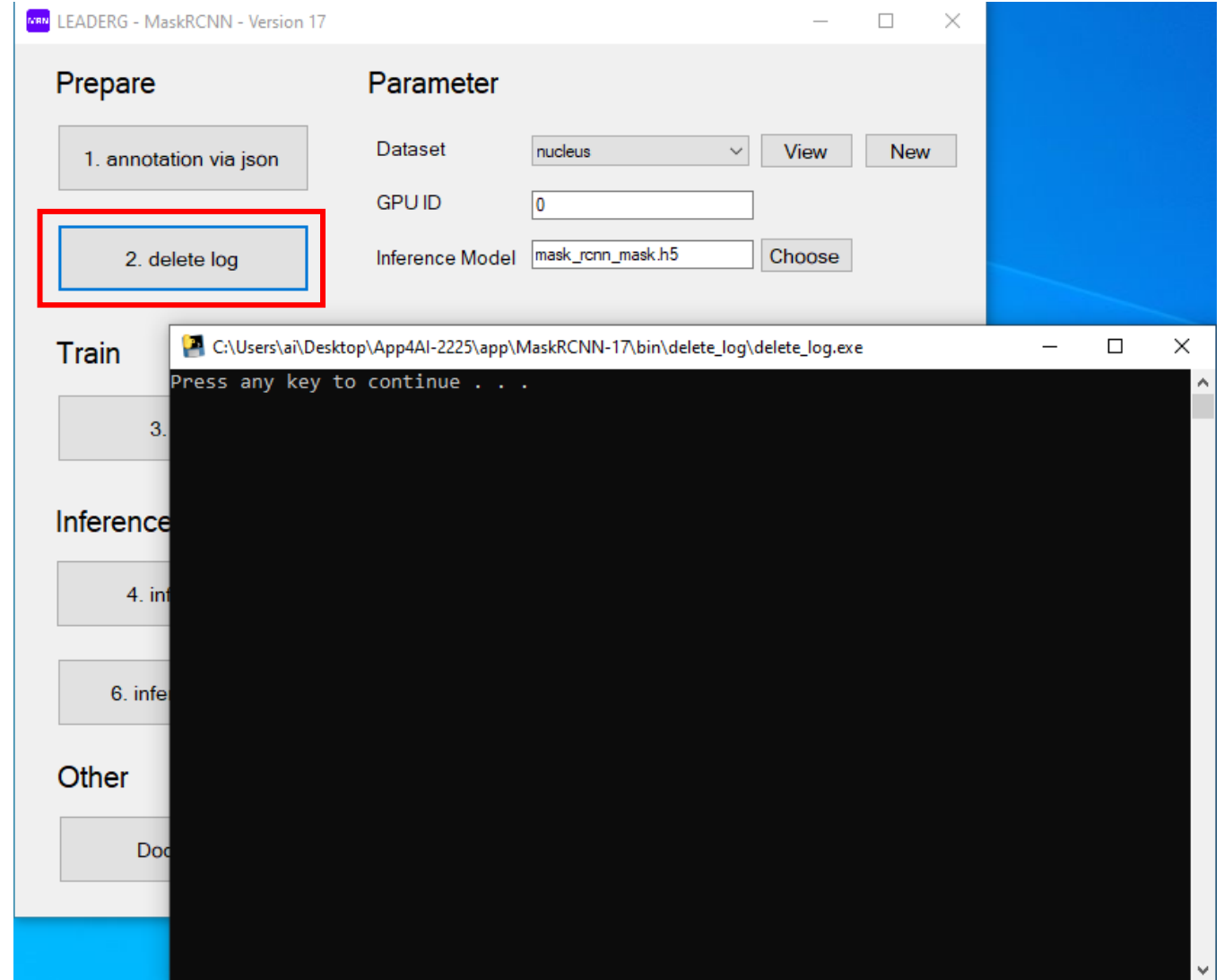
Both training and validation images need to be annotated. To switch to annotated validation images, please press "Open Image Dir" at the top left to select "your_dataset/val/images", then press "SELECT", then press Under "Annotation" in the upper right, select "Pascal VOC XML" and then select "your_dataset/val/annotations" and then press "SELECT".

See Annotation.pdf for how to use annotation pages.



2. delete log

Delete the log files left over from previous training.

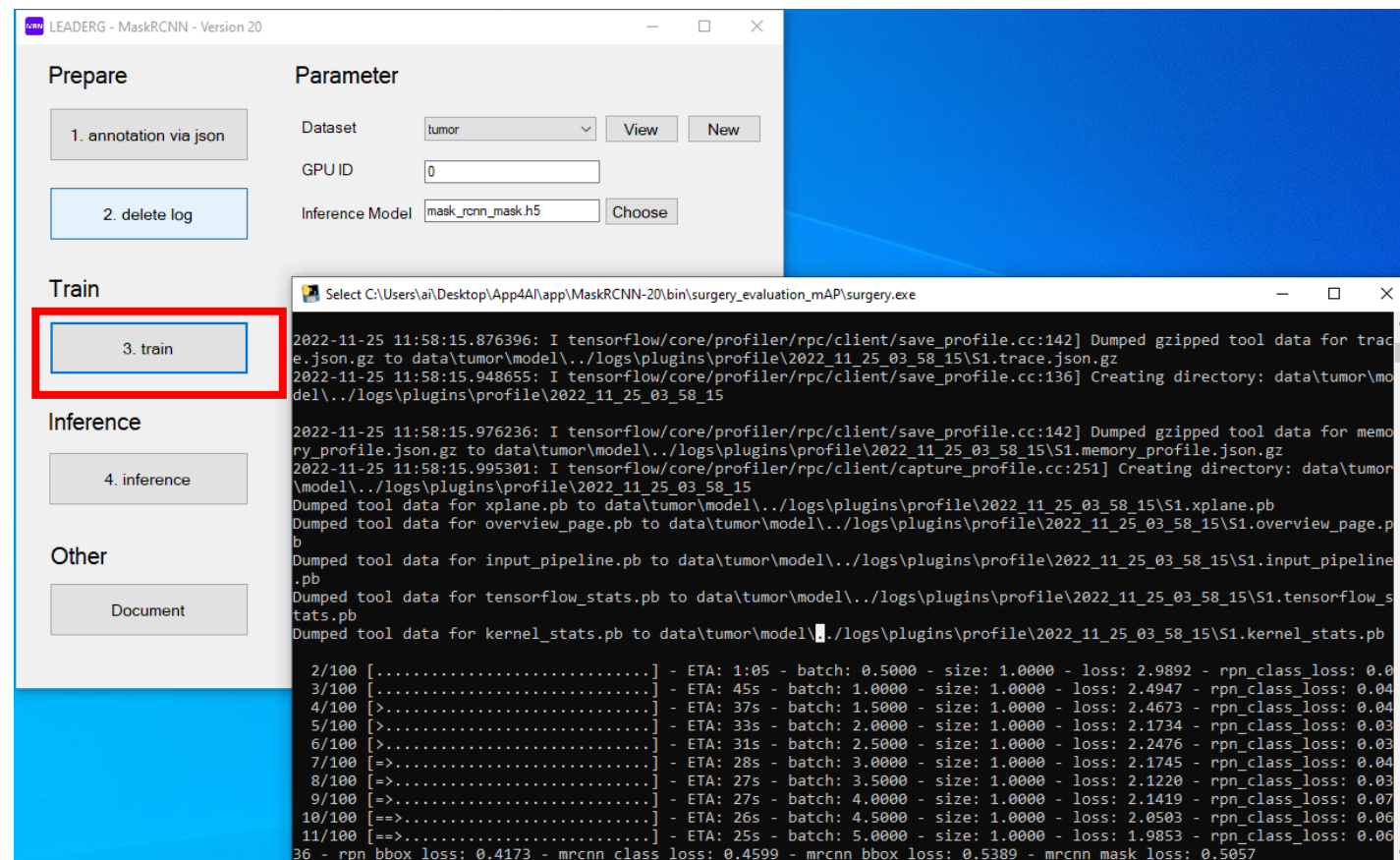


3. train

Start training.

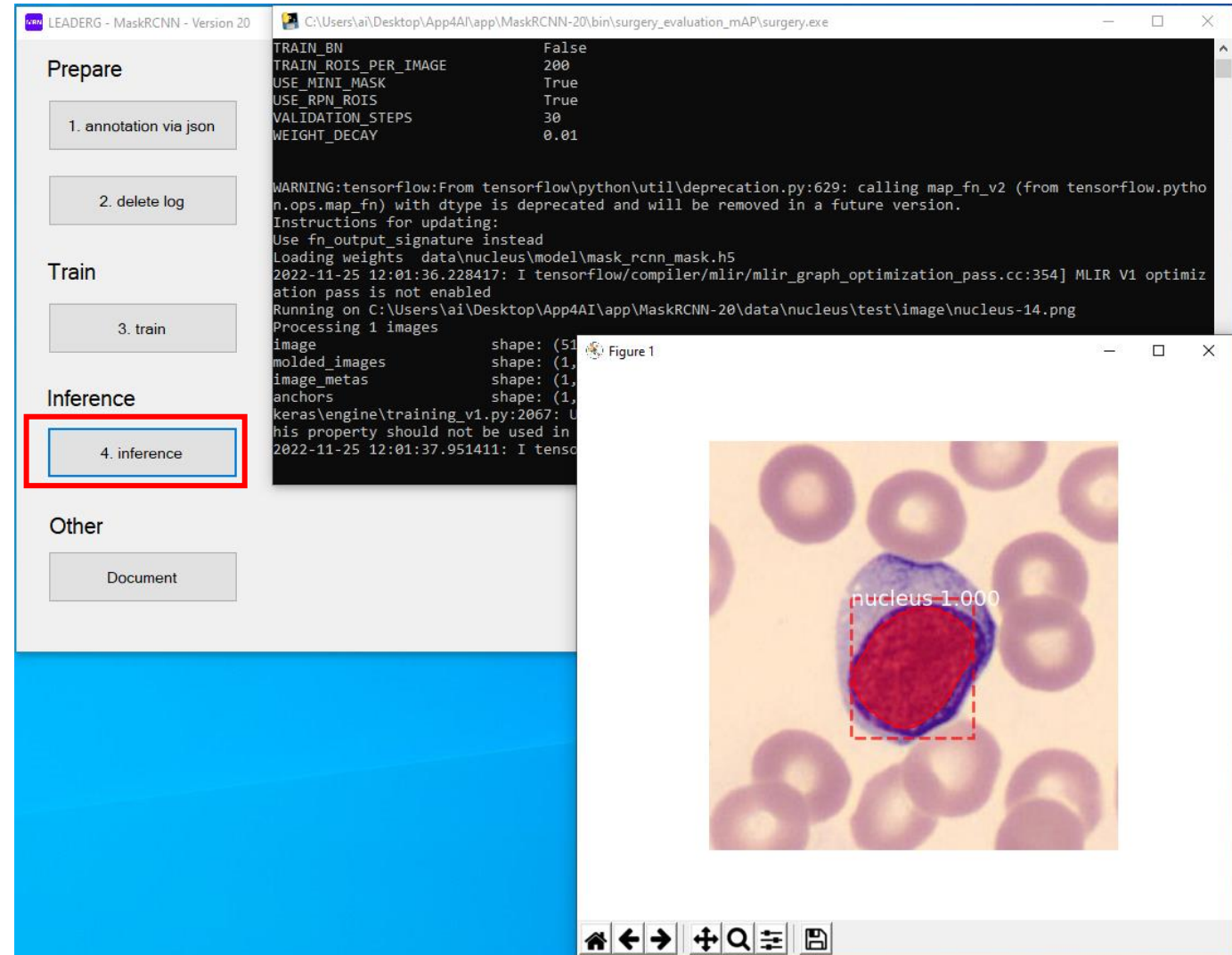
Remark:

Before the first training, please confirm whether mask_rcnn_coco.h5 exists in the model folder, and delete mask_rcnn_mask.h5.



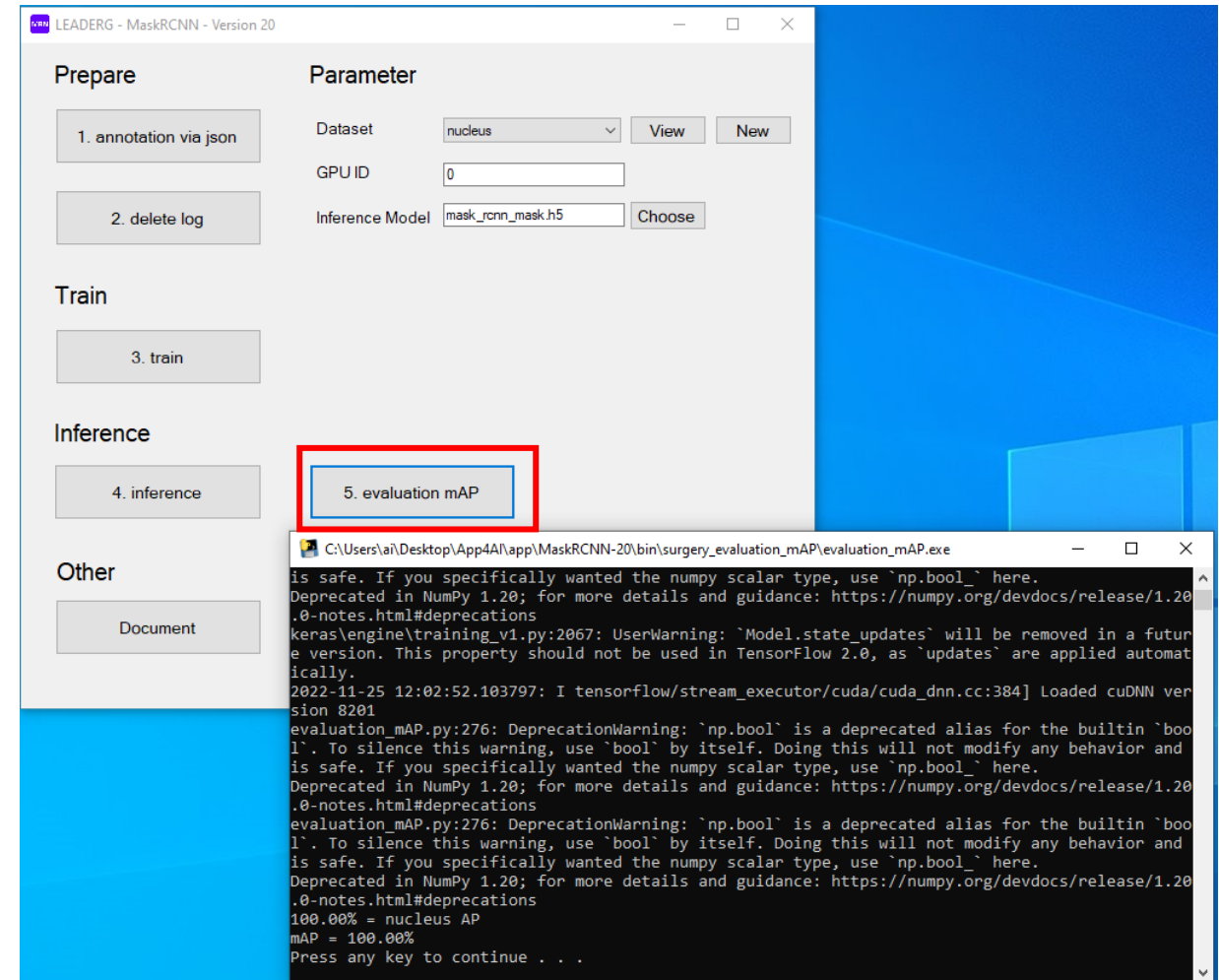
4. inference

To infer a single image, before inference, you can select the model to be inferred in Parameter -> Inference Model.



5. evaluation mAP

Calculate the mAP of each category in the val folder of the dataset. Before calculation, you can select the model to be used to calculate the mAP in Parameter -> Inference Model.



Reference

- Please refer to the readme.txt in the APP folder.
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