How to use nnUNet_GUI for simpliy the steps

In order to make our use nnUNetv2 much easier, The lightweight GUI is made.

Moreover, this GUI is also a useful tool for us dealing with tif file.

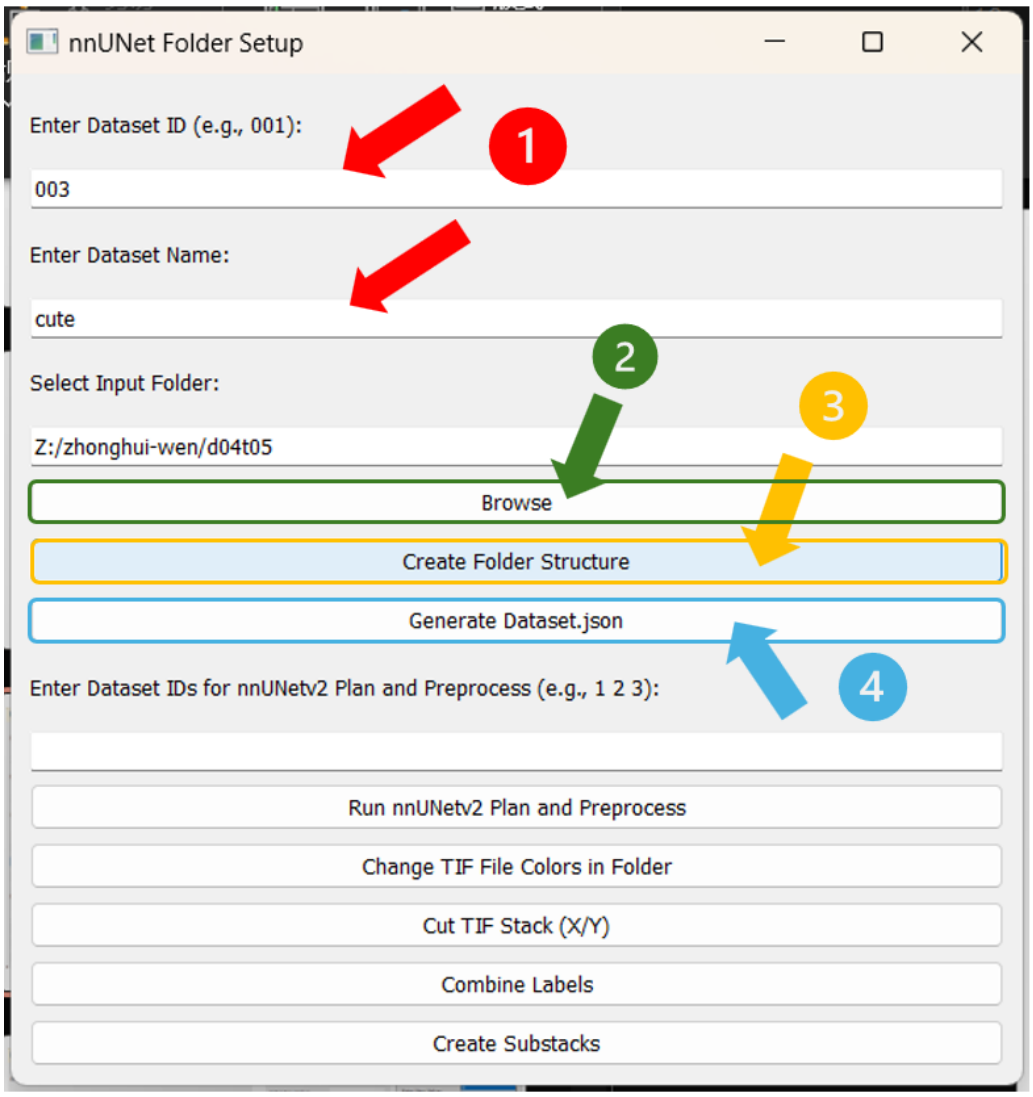
There are 5 main functions: Folder structure created, Tif files color value changes, Tif file cut, Combine multiple Tif files with different labels into one Tif file, and Create Tif file substacks.

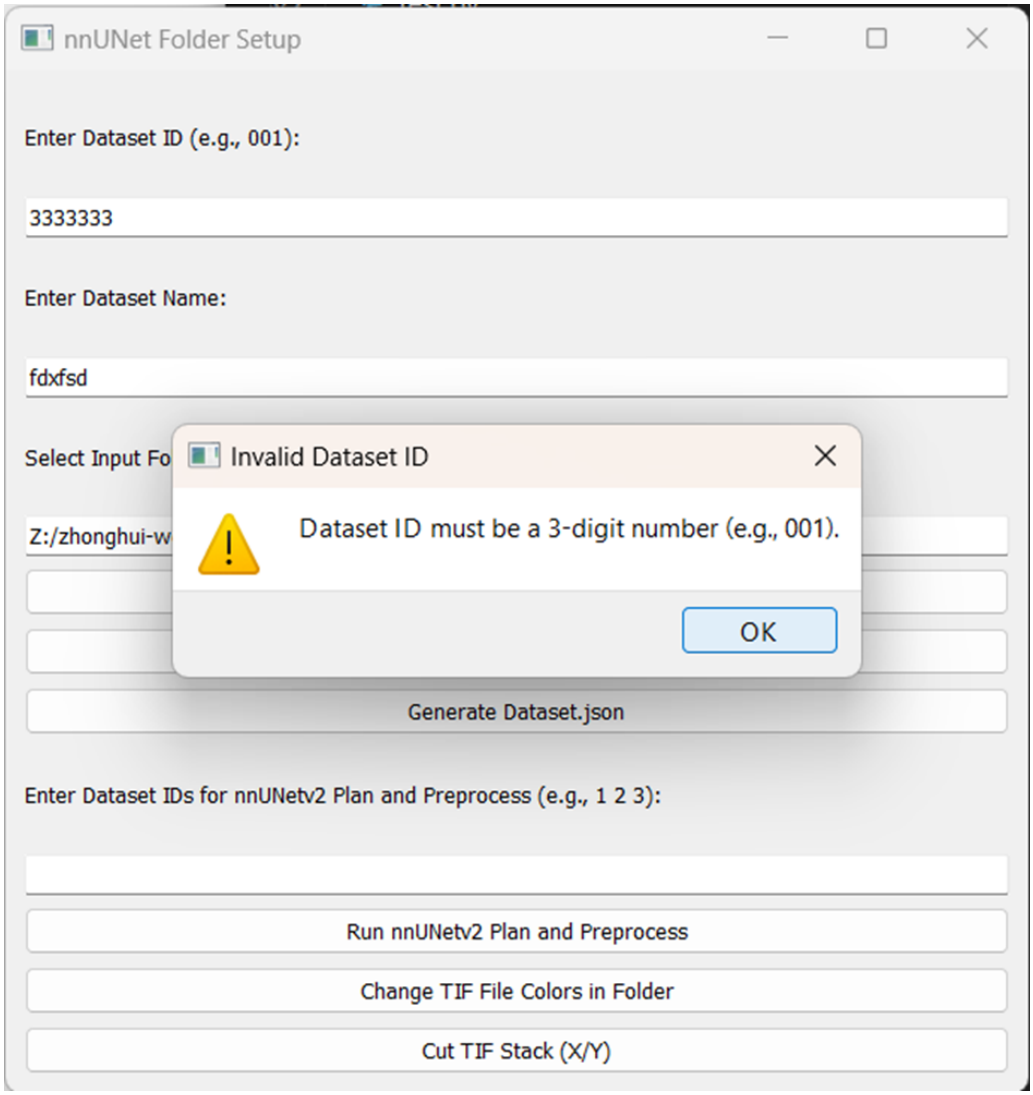
For folder structure created

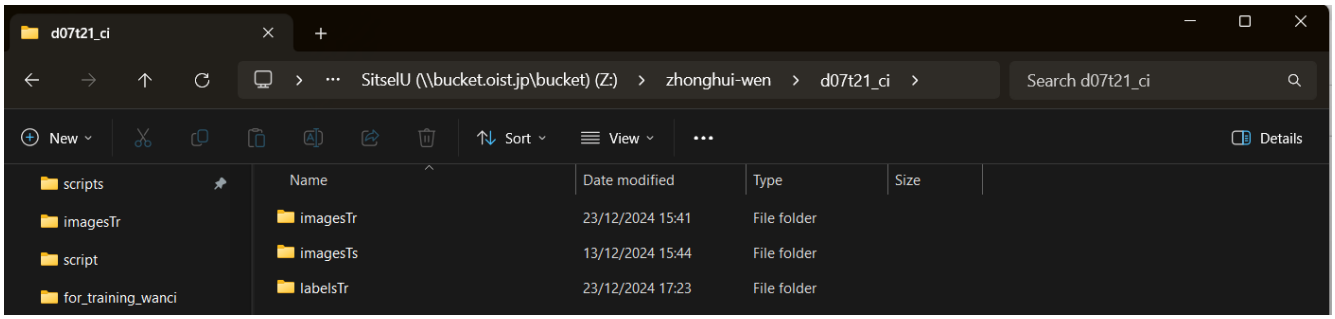
follow these steps:

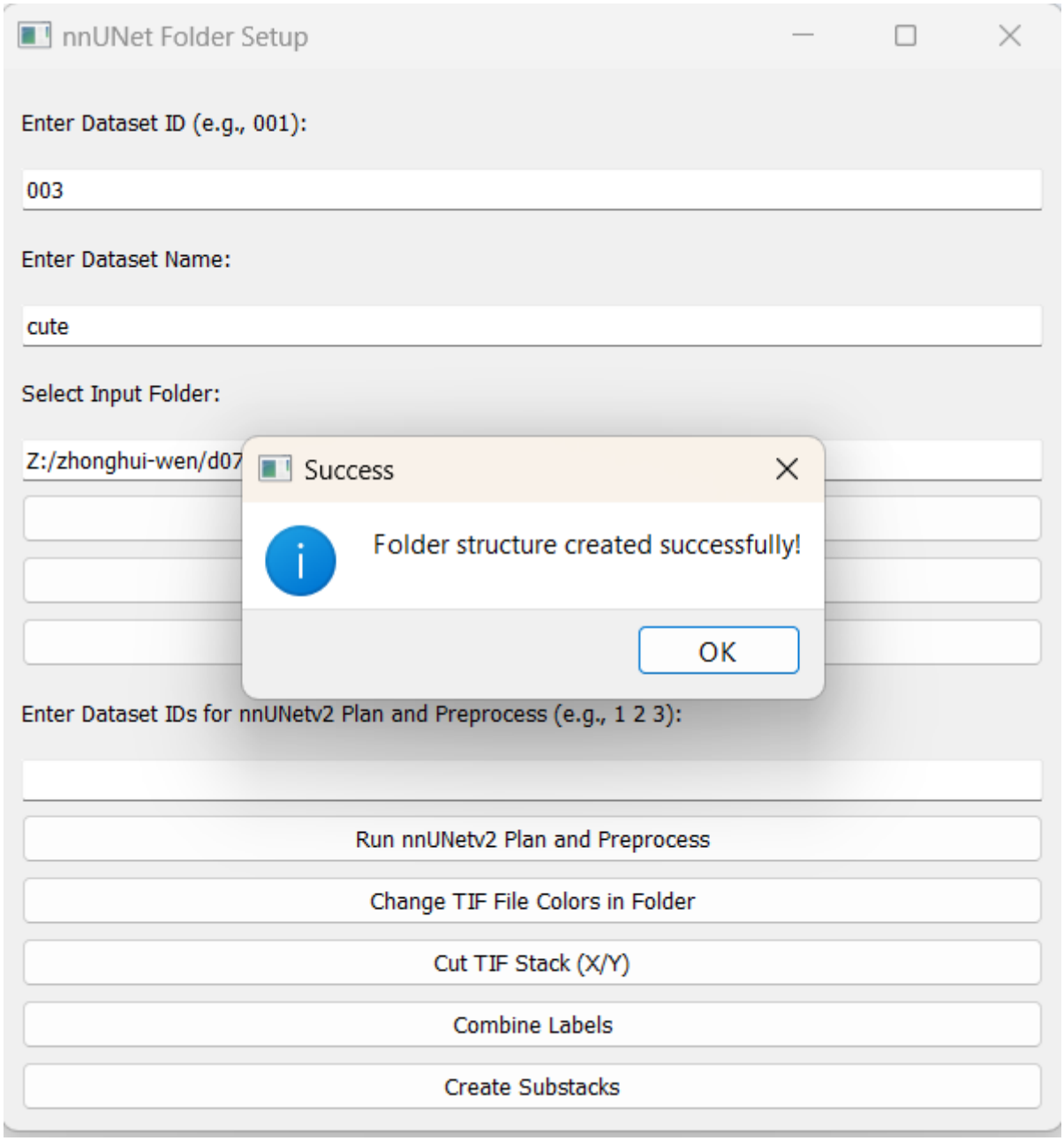
1. **Run the GUI**. (GitHub: https://github.com/guanzhongbudayinga/nnUNetGUI) See image 1
2. **Enter Dataset ID and Name.** It will verify if the ID is a 3-digit number.
   Note: if your input is not 3 digit-number it will pop up a window to remind you. See image 2
3. **Browse the folder that we will train.**
   Note: This original folder should include imagesTr and labelsTr. make sure the folder names are correct. See image 3
4. **Click the Create Folder Structure button.**
   Note: It will show you a successful message. See images 4 and 5. the default path is "Z:/zhonghui-wen/nnUNet_raw", you
5. could change it by your self.
6. **Click the Generate Dataset.json button.**
   Note: It will scan labels in labelsTr folder automatically, if no labels are found it will show the message to you. See image 6. If it finds labels it will pop up a window to let you give a name to the label. Each label number is the specific label's value numberl. The background is always 0. See images 7 and 8
7. **Then the data folder structure will be directly created to your path.**
   Note: The default path I created is "Z:/zhonghui-wen/nnUNet_raw", It will be fine if you change it to your bucket. what you can do is find this path in the script and then change it

to the path you wanted. See code 1.

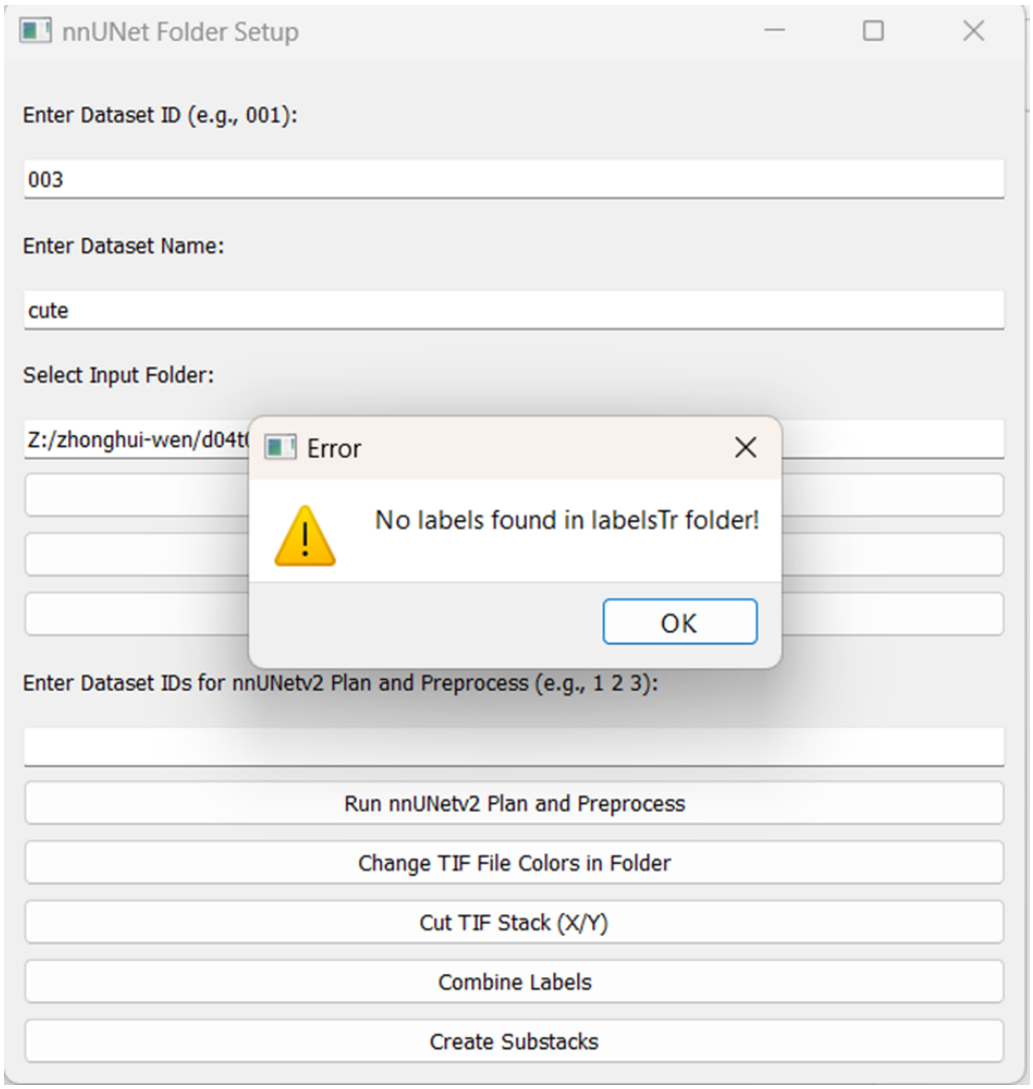


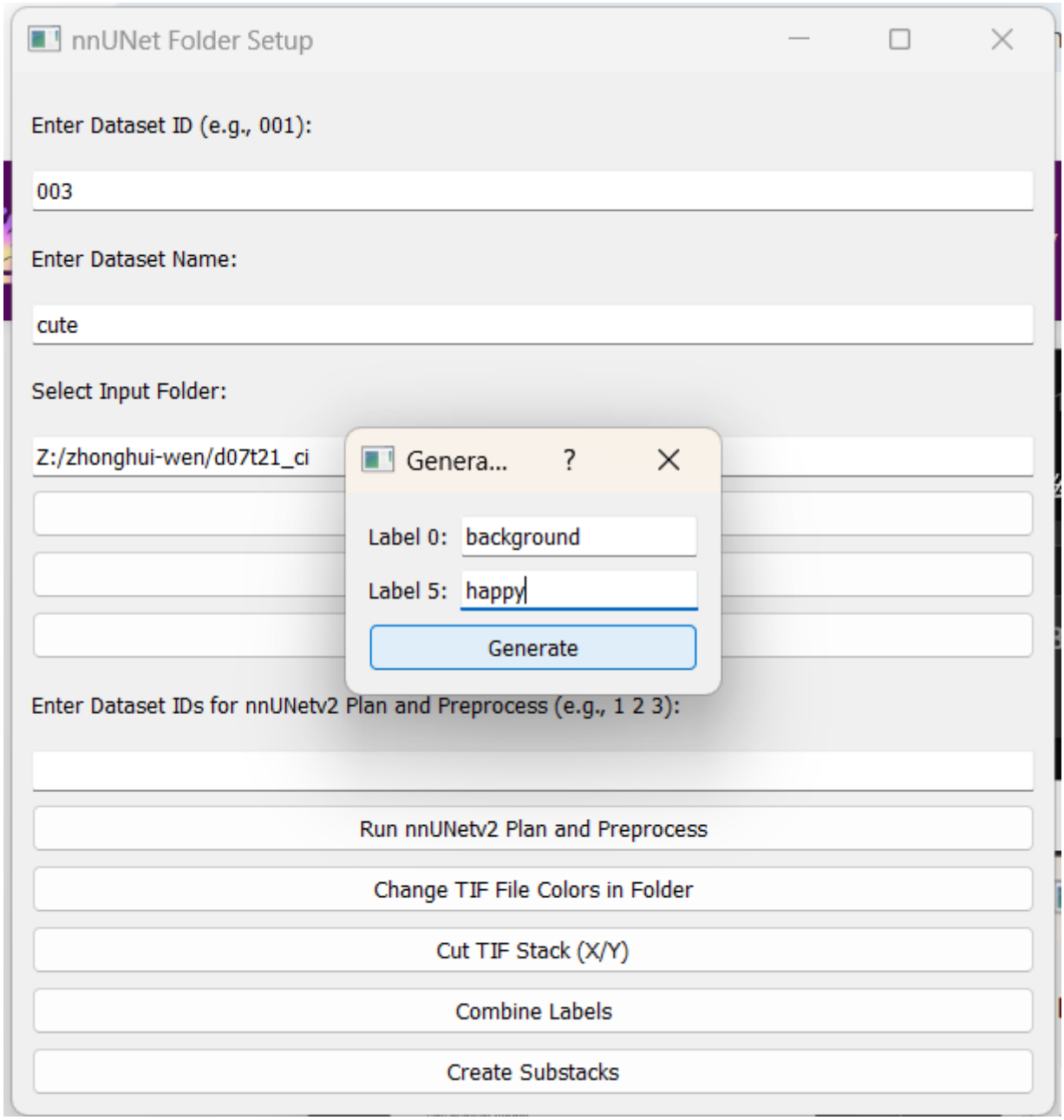

nnUNet Folder Setup
Enter Dataset ID (e.g., 001):
3333333
Enter Dataset Name:
fdxfsd
Select Input Fo
Z:/zhonghui-w
Invalid Dataset ID
Dataset ID must be a 3-digit number (e.g., 001).
OK
Generate Dataset.json
Enter Dataset IDs for nnUNetv2 Plan and Preprocess (e.g., 1 2 3):
Run nnUNetv2 Plan and Preprocess
Change TIF File Colors in Folder
Cut TIF Stack (X/Y)


d07t21_ci
SitselU (\\bucket.oist.jp\bucket) (Z:)
zhonghui-wen
d07t21_ci
Search d07t21_ci
New
Sort
View
Details
scripts
imagesTr
script
for_training_wanci
Name
Date modified
Type
Size
imagesTr
23/12/2024 15:41
File folder
imagesTs
13/12/2024 15:44
File folder
labelsTr
23/12/2024 17:23
File folder




```
Directories created at: Z:/zhonghui-wen/nnUNet_raw/Dataset003_cute
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_114_1_124.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_114_3_124.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_114_4_124.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_78_1_90.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_78_3_90.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\imagesTr\ci_78_4_90.tif in imagesTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_114_1_124.tif in labelsTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_114_3_124.tif in labelsTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_114_4_124.tif in labelsTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_78_1_90.tif in labelsTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_78_3_90.tif in labelsTr
Processing file: Z:/zhonghui-wen/d07t21_ci\labelsTr\ci_78_4_90.tif in labelsTr
Folder structure created successfully!
```


nnUNet Folder Setup
Enter Dataset ID (e.g., 001):
003
Enter Dataset Name:
cute
Select Input Folder:
Z:/zhonghui-wen/d04t
Error
No labels found in labelsTr folder!
OK
Enter Dataset IDs for nnUNetv2 Plan and Preprocess (e.g., 1 2 3):
Run nnUNetv2 Plan and Preprocess
Change TIF File Colors in Folder
Cut TIF Stack (X/Y)
Combine Labels
Create Substacks




```
Folder structure created successfully!
Starting dataset.json generation...
Generating dataset.json...
dataset.json created at Z:/zhonghui-wen/nnUNet_raw/Dataset003_cute\dataset.json
```

CODE 1

(base) okwen@Intern-PC-1:~/Bucket/nnUnet_raw/Dataset003_cute$ tree

.

├── dataset.json

├── imagesTr

│ ├── ci_114_1_124.json

│ ├── ci_114_1_124_0000.tif

│ ├── ci_114_3_124.json

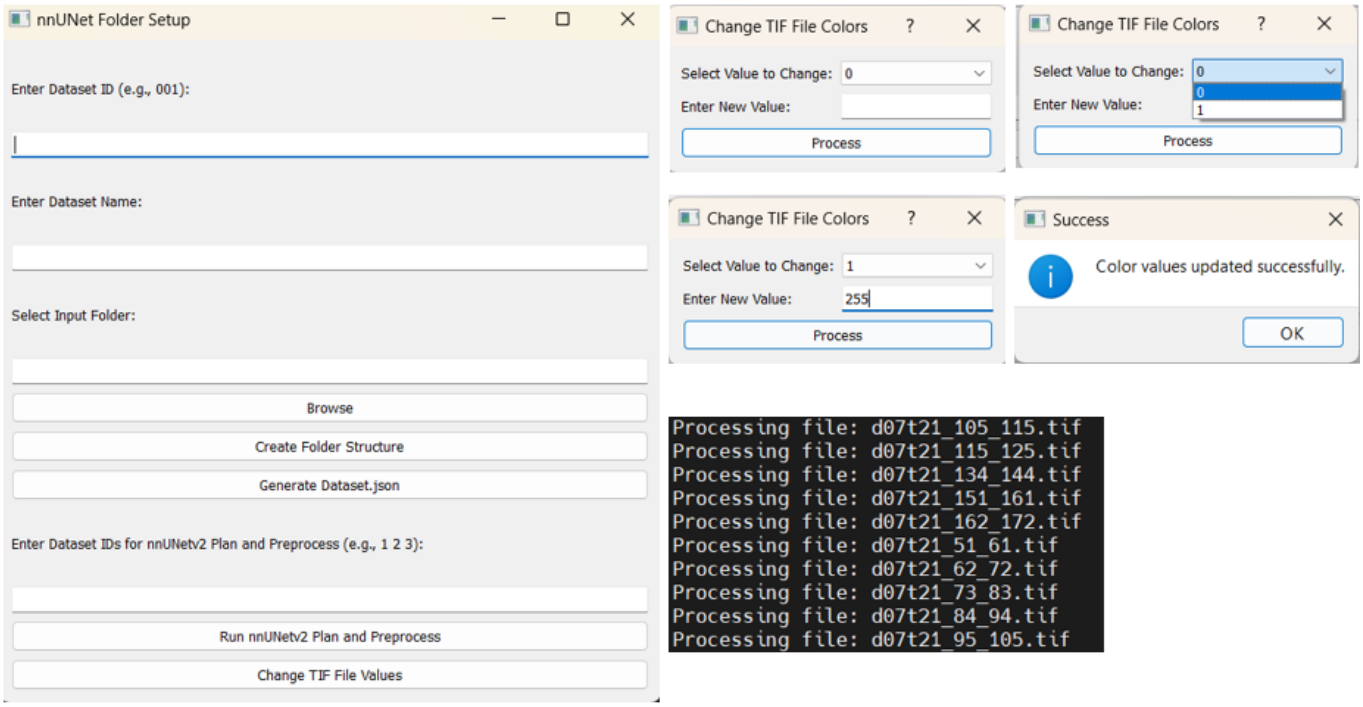
```
│   ├── ci_114_3_124_0000.tif
│   ├── ci_114_4_124.json
│   ├── ci_114_4_124_0000.tif
│   ├── ci_78_1_90.json
│   ├── ci_78_1_90_0000.tif
│   ├── ci_78_3_90.json
│   ├── ci_78_3_90_0000.tif
│   ├── ci_78_4_90.json
│   └── ci_78_4_90_0000.tif
├── imagesTs
└── labelsTr
    ├── ci_114_1_124.json
    ├── ci_114_1_124.tif
    ├── ci_114_3_124.json
    ├── ci_114_3_124.tif
    ├── ci_114_4_124.json
    ├── ci_114_4_124.tif
    ├── ci_78_1_90.json
    ├── ci_78_1_90.tif
    ├── ci_78_3_90.json
    ├── ci_78_3_90.tif
    ├── ci_78_4_90.json
    └── ci_78_4_90.tif

4 directories, 25 files
```

For color value change

steps:

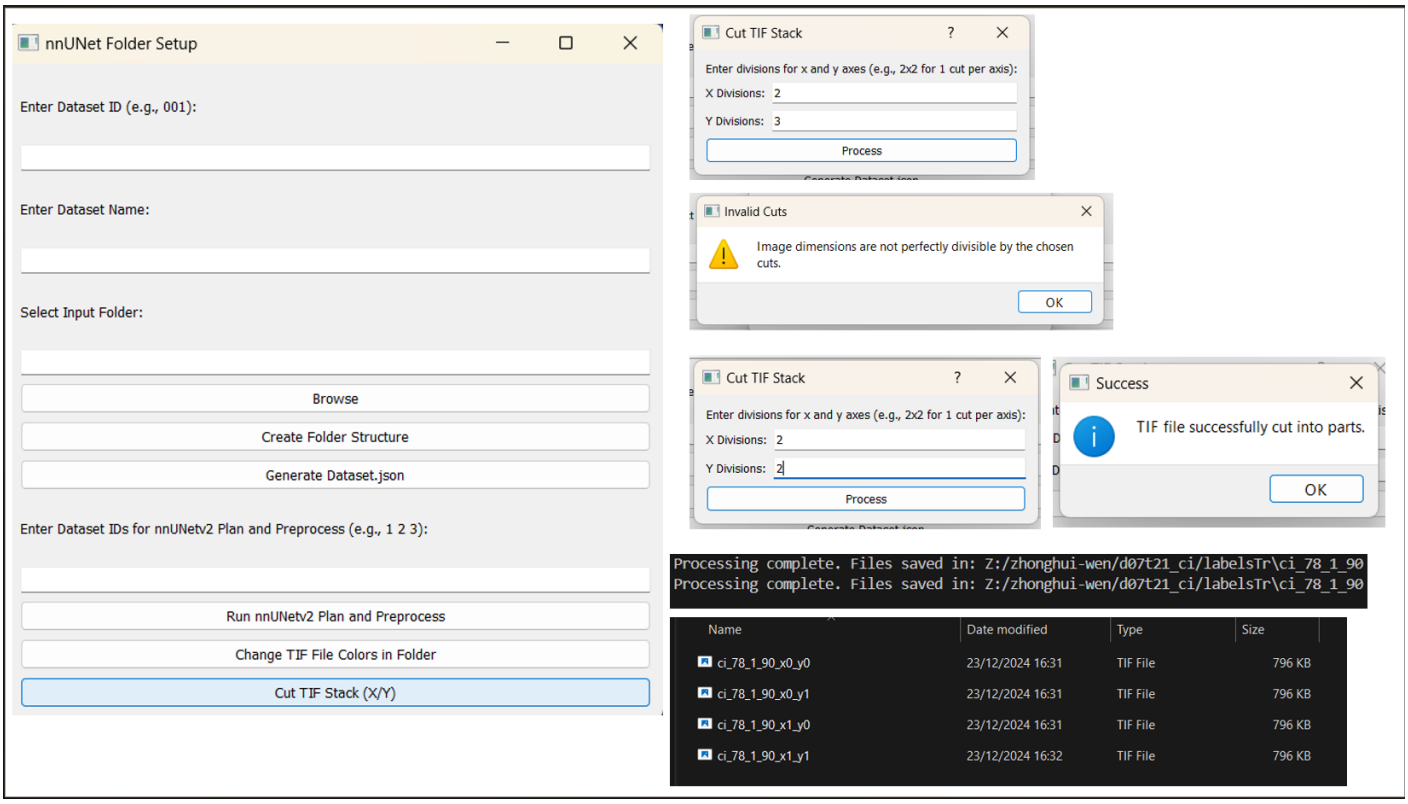
1. Run the GUI.
2. Click the Change colors button.
3. It will detect all the tif file's color value you have in the folder you selected.
4. Select the color value you want to change.
5. Click process button.
6. Then you will have a message box to tell you the color changed successfully.



For cut tif file

Steps:

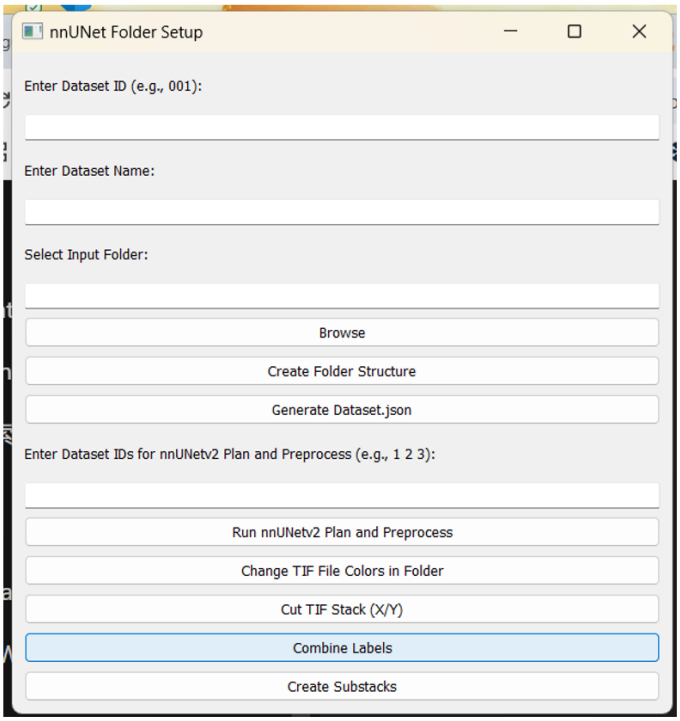
1. Run the GUI.
2. Click Cut Tif stack(X/Y)
3. After you select the file you want to cut, it will pop up a window to ask you input both X and Y divisions pieces number.
4. If you input the number can not be perfect divided by the original tif file pixel size, it will pop up a reminder message to ask you input the X and Y again.
5. if you input the number can be divided by the X and Y axis pixels size number it will show you a successfully cut into parts. And the output will be a folder include all the parts you cut, save it directly to the same path as your input file. the name of the subparts named by the x and y dimensions at the end.

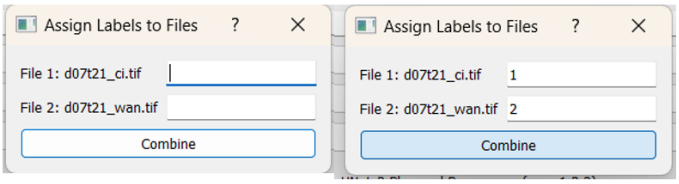


For combine labels into one TIF file

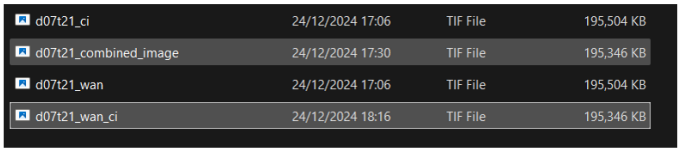
Steps:

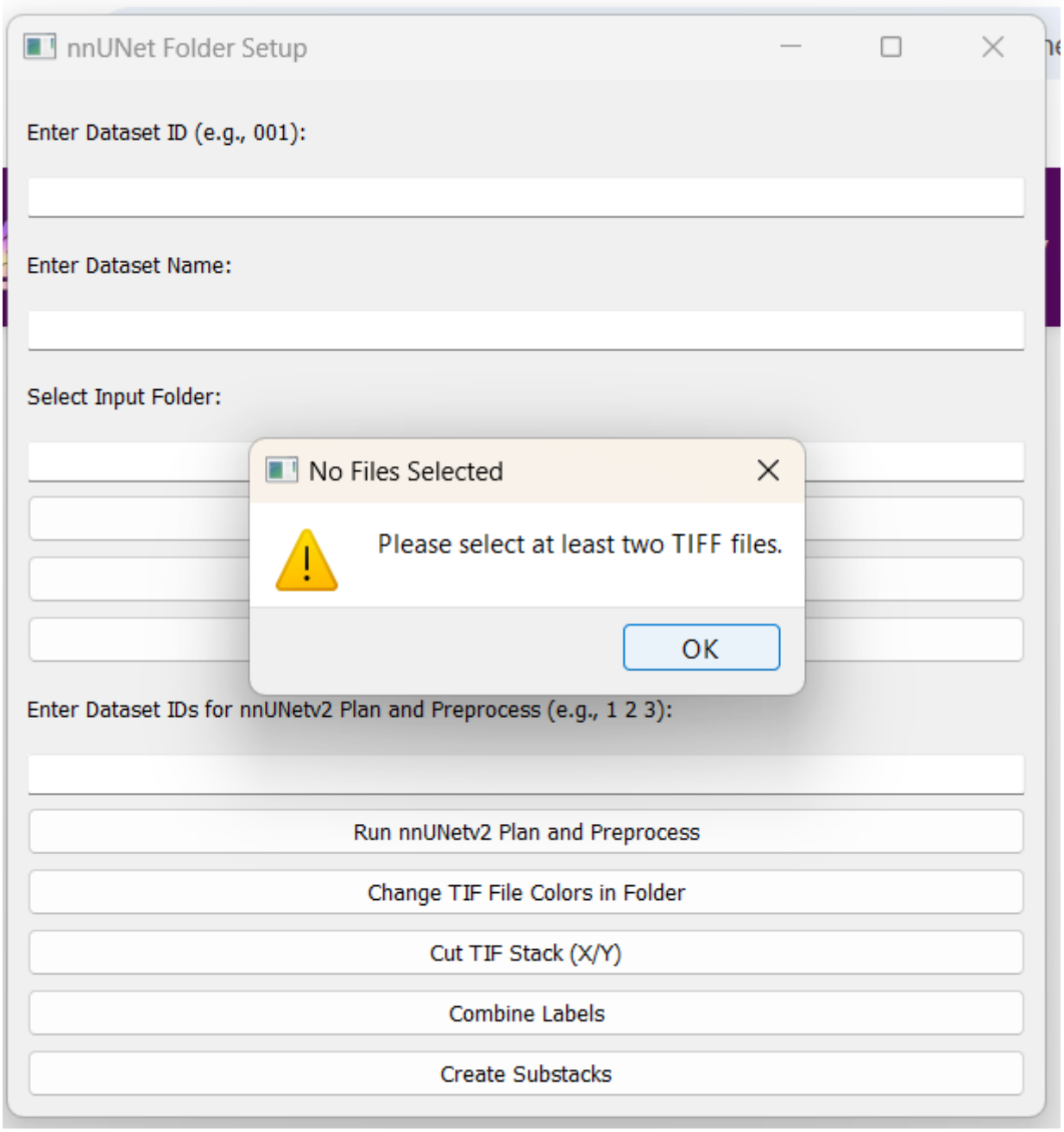
1. Run the GUI.
2. Click the Combine labels button.
3. It will ask you to select multiple tif files, if you not select more than two files it will show you a message.
4. After you select the correct files it will pop up a window to ask you give the label's value to each file.
5. After clicking the combine button it will tell you a success message.
6. The new file you can name it before save. The path you also can choose by yourself.


nnUNet Folder Setup
Enter Dataset ID (e.g., 001):
Enter Dataset Name:
Select Input Folder:
Browse
Create Folder Structure
Generate Dataset.json
Enter Dataset IDs for nnUNetv2 Plan and Preprocess (e.g., 1 2 3):
Run nnUNetv2 Plan and Preprocess
Change TIF File Colors in Folder
Cut TIF Stack (X/Y)
Combine Labels
Create Substacks


Assign Labels to Files
File 1: d07t21_ci.tif
File 2: d07t21_wan.tif
Combine
Assign Labels to Files
File 1: d07t21_ci.tif
1
File 2: d07t21_wan.tif
2
Combine


Success
Combined TIFF saved at Z:/zhonghui-wen/for_training_wanci/d07t21_wan_ci.tif
OK


d07t21_ci 24/12/2024 17:06 TIF File 195,504 KB
d07t21_combined_image 24/12/2024 17:30 TIF File 195,346 KB
d07t21_wan 24/12/2024 17:06 TIF File 195,504 KB
d07t21_wan_ci 24/12/2024 18:16 TIF File 195,346 KB

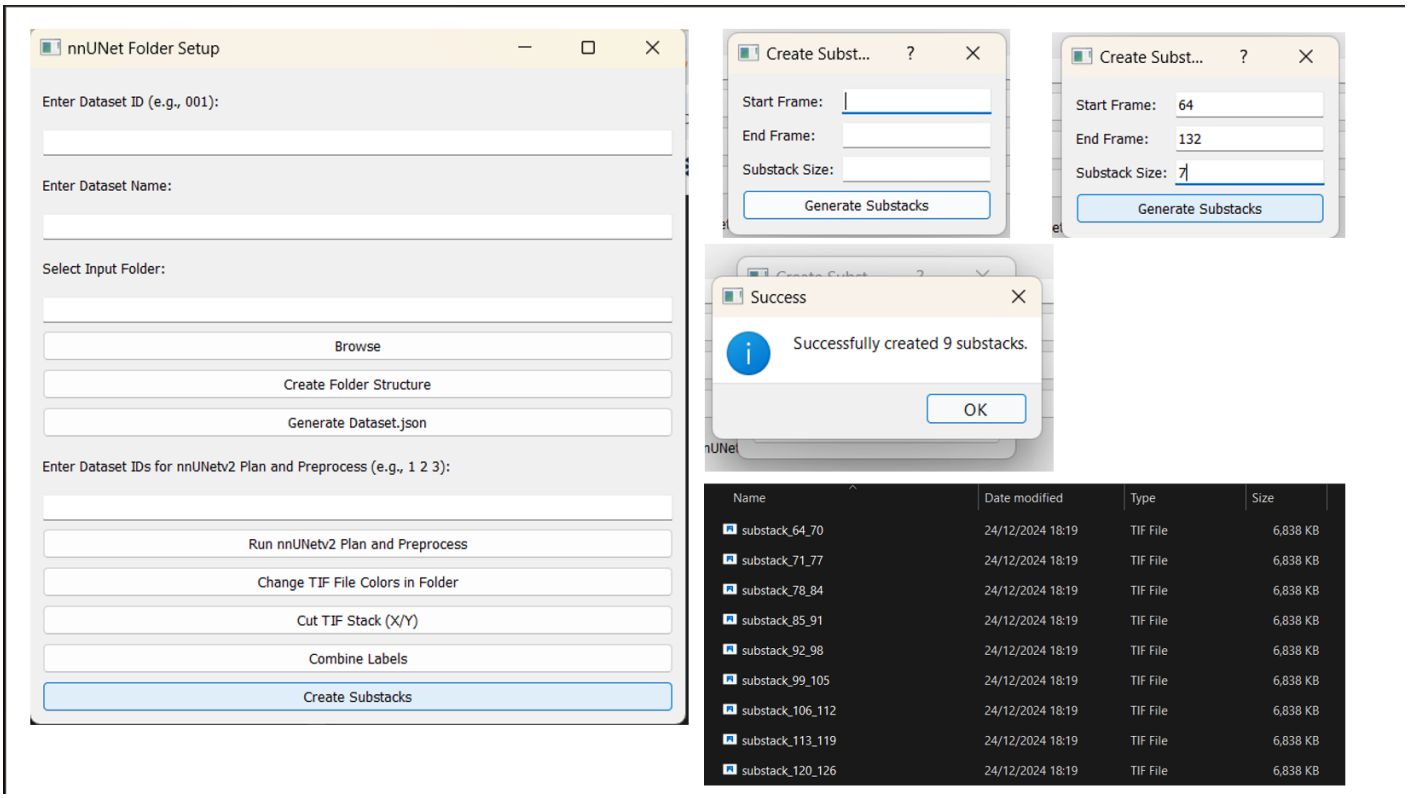


For Create Substacks

Steps:

1. Run the GUI.
2. Click the Create Substacks button.
3. After you select which file you want to make a substack,it will pop up a window to let you input the Start frame number end frame number and the size of substack.
4. The number you input does not need to be perfect match the size and number of the frame. it will count from the start frame and remove the redundant frames.
5. After it finishes creating substacks it will show you a successful message.

6. You can save it to the path you wanted. and the name of the substack will show the original frame's number on it.



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