

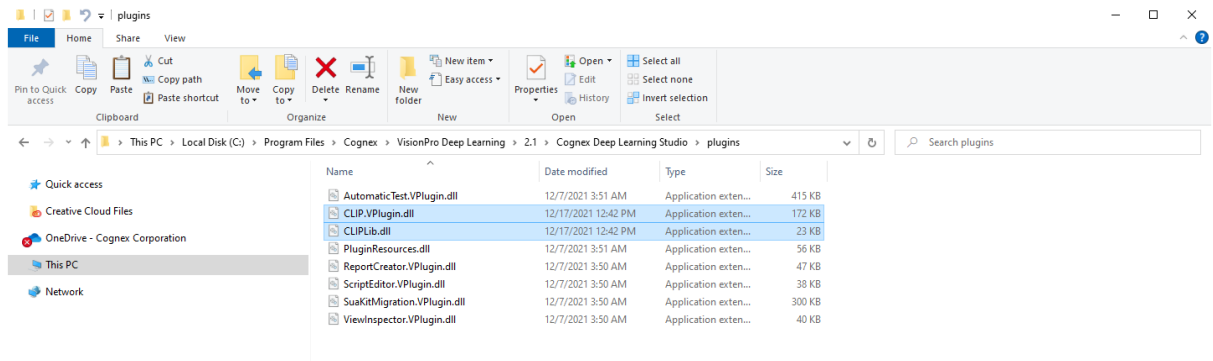
CLIP (Cognex Label Import / Export Plugin) Manual

1. How to activate CLIP

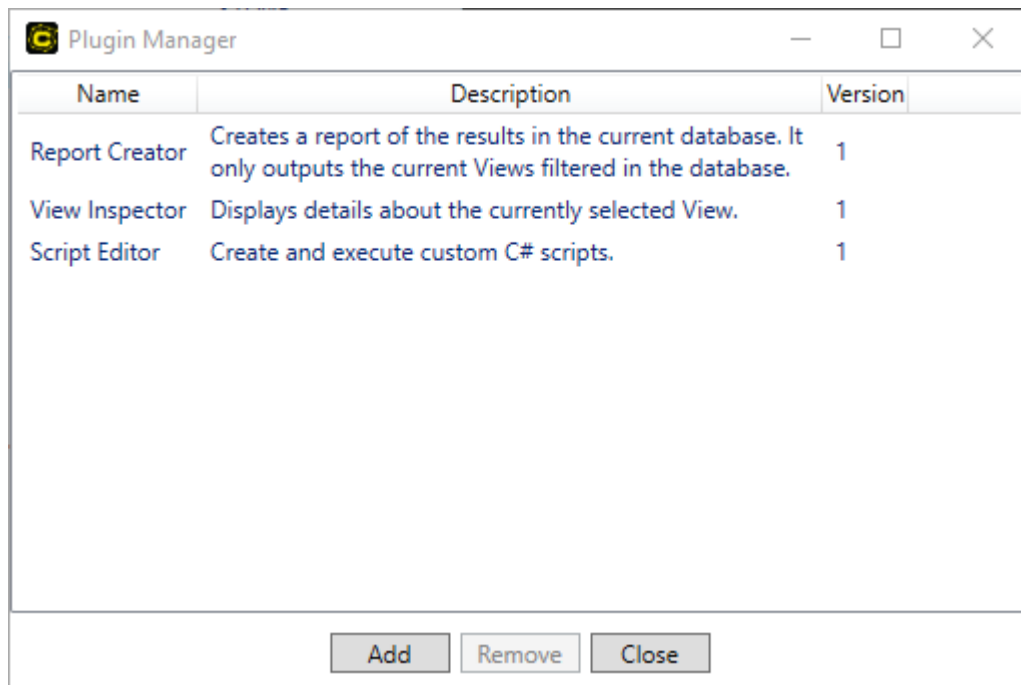
- ① Go to this path

C:\Program Files\Cognex\VisionPro Deep Learning\2.1\Cognex Deep Learning Studio\plugins

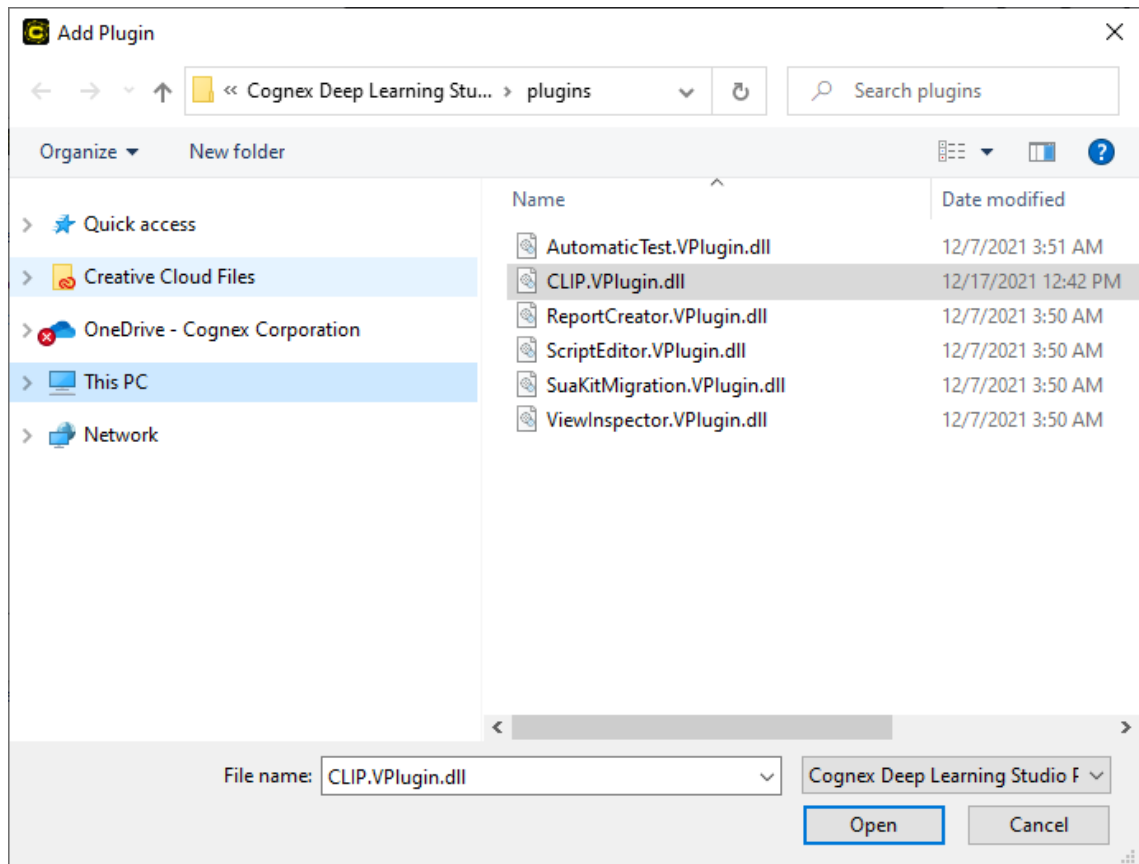
- ② Please copy and paste the dlls



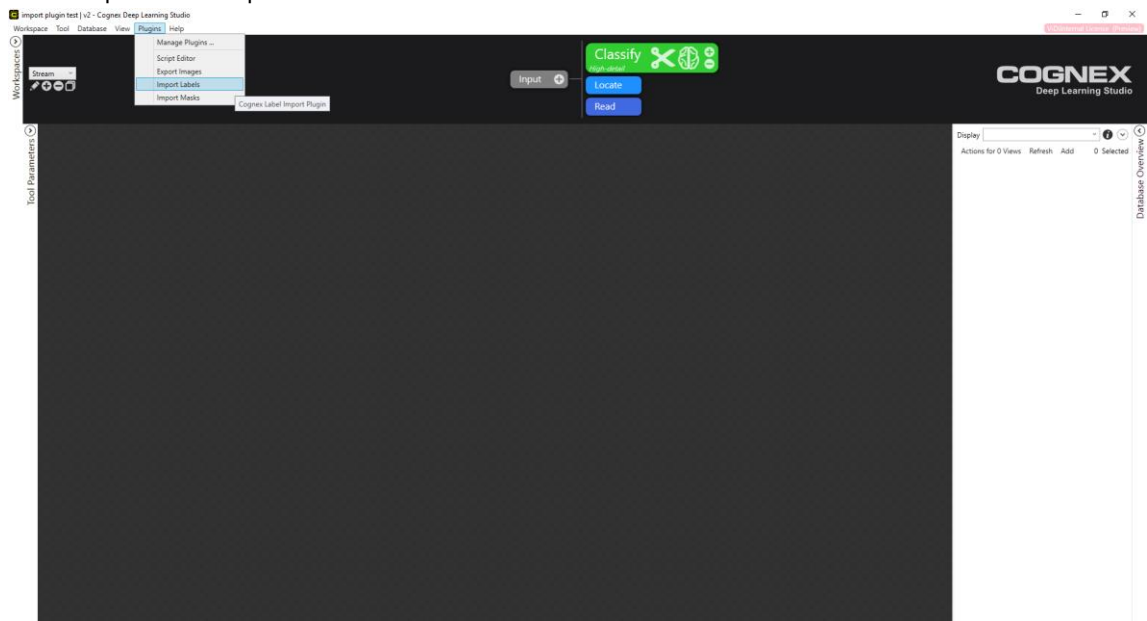
- ③ Run VPD 2.1
- ④ Go to Plugins > Manage Plugins
- ⑤ Click Add button



- ⑥ Select CLIP.VPlugin.dll and click open



- ⑦ Create / Open a workspace and add an appropriate tool (Green or Red) and you can find label import and export menu.



2. Key points and Limitations

- ① Purpose: Getting external labels and managing VPDL's internal labels
- ② Rules of images
 - i. With this plugin, you can
 - export Images / labels (green and red tools) / masks (all tools)
 - import external and internal labels (green and red tools) and external and internal masks (all tools)
 - ii. Image file type

Image file type	Type	Import	Export
Image	One type	-	.png
Label	Internal	.vrlf (red tool), .vglf (green tool) *	
	External	.png	-
	Json **	.json	-
Mask	Internal	.vmf *	
	External	.png	-
	Json**	.json	-

* Name of format

vrlf: VPDL Red Label Format

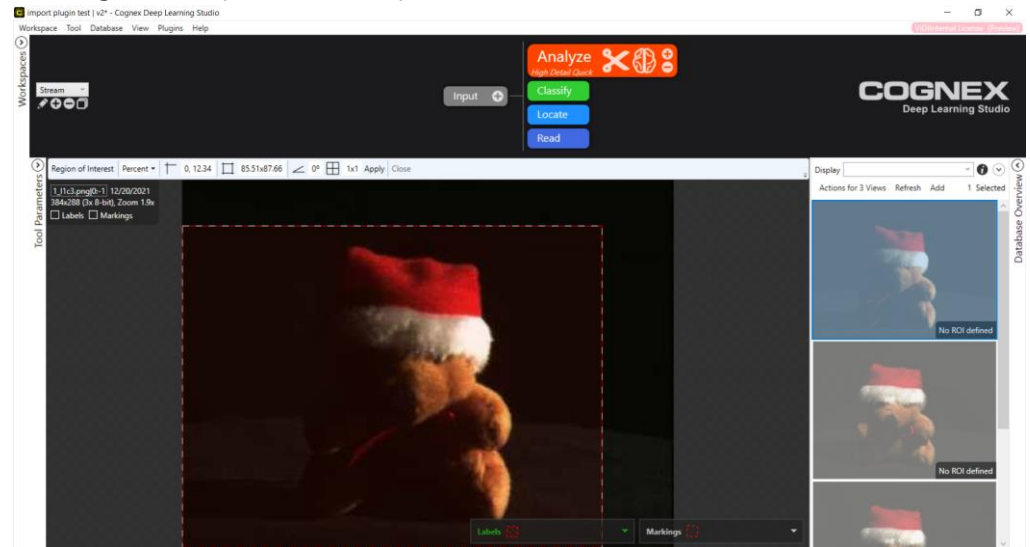
.vglf: VPDL Green Label Format

.vmf: VPDL Mask Format

** Json file format: You can see the details for format of json file on below page.

iii. View Based Images

- All images are exported and imported based on the View (ROI defined view).



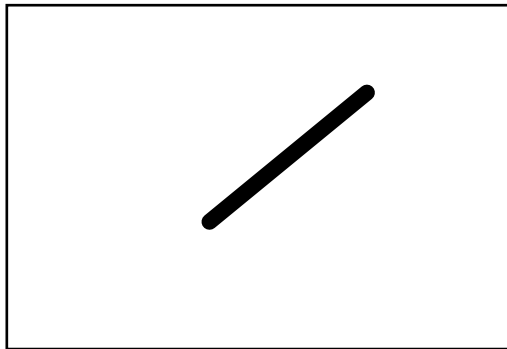
- So, you can import labels and mask after ROI is defined and if the ROI does not fit with the label/mask file, it will be not imported.
- Note: CLIP **does not support split view** by the region (for example, 1_l2c1.png|0:1 and 1_l2c1.png|0:2)

iv. File name for importing labels and masks

1. The name of the image (excluding file type) in VPDL and the name of the file to be imported should be same.
2. For example, when you import a label to specific image such as "name.png", the label name should be "name.png", "name.vrlf" or "name.vglf".

3. Importing png file to VPDL (External labels for Red tool and external masks)

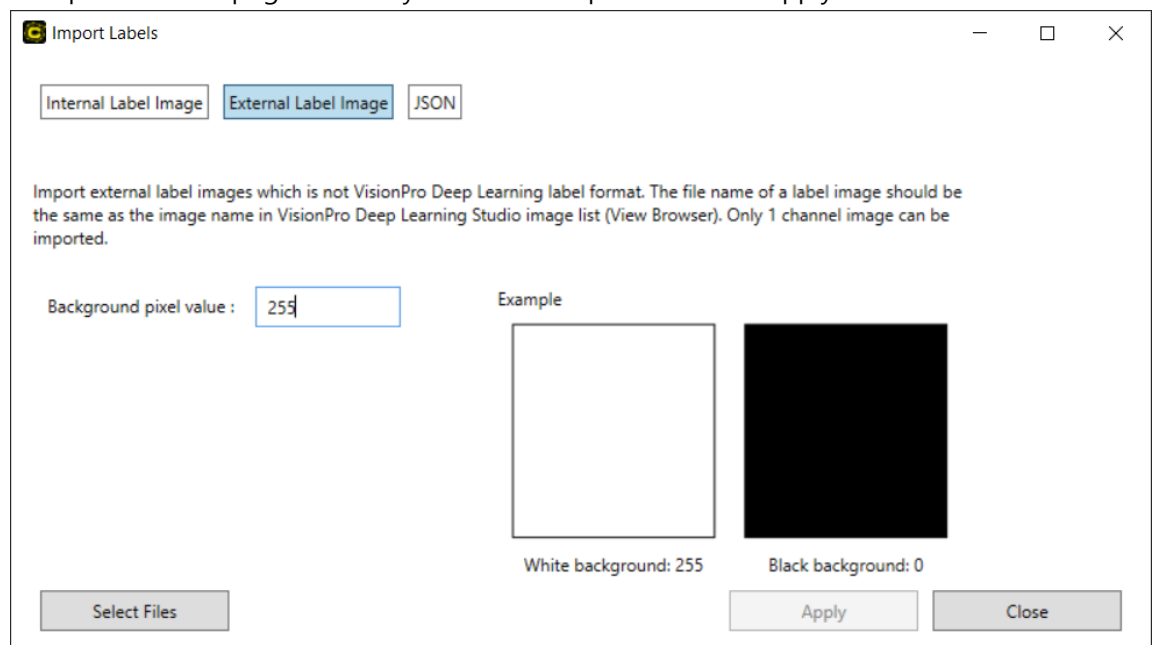
- ① If you want to import png file as a label or mask, please open your png file on Windows first.



For example, you can see the background is white and the defect (mask) area is black.

- ② In this case, please input 255 in the box.

And please select png files that you want to import and click Apply button.



4. Importing Json file to VPDL

* Please aware of capital letters

① Green tool labels

i. Rules

- Key values "classes" / "images" must be included.
- As a child of "classes", {index (string type), class name (string type)} pair must be included.
- "images" must have a "class" under "filename".

ii. Example 1

```
"classes": {  
  "0": "OK",  
  "1": "NG"  
}
```

iii. Example 2

```
"images": {  
  "CAM1-NG.png": {  
    "class": [  
      1  
    ]  
  },  
  "CAM2-NG.png": {  
    "class": [  
      1  
    ]  
  }  
}
```

② Red tool labels

i. Rules

- "Labels" must be included, and information of each label should be listed under the key value.
- The label information should have "Class" / "Shape" / "StrokeThickness" / "Points".
- "Class" must be entered as a positive integer (unsigned long) type, not a string type.
- "Shape" is a string type and supports only the following formats

- ✓ "rectangle"
- ✓ "ellipse"
- ✓ "line"
- ✓ "polyLine"
- ✓ "polygon"

ii. Example

```
"Labels": [
  {
    "Class": 0,
    "Shape": "ellipse",
    "StrokeThickness": 5.0,
    "Points": [
      "104.972811914788,310.801663378971",
      "132.045318045539,338.438180054112"
    ]
  },
  {
    "Class": 0,
    "Shape": "ellipse",
    "StrokeThickness": 5.0,
    "Points": [
      "301.248481362731,141.034489517388",
      "323.808903138356,168.106995648139"
    ]
  }
]
```

③ Masks

i. Rules

- "Masks" must be included, and information of each label should be listed under the key value.
- The mask information should have "Shape" / "StrokeThickness" / "Points".
- "Shape" is a string type and supports only the following formats
 - ✓ "rectangle"
 - ✓ "ellipse"
 - ✓ "line"

✓ "polyLine"

✓ "polygon"

ii. Example

```
"Masks": [  
  {  
    "Shape": "polygon",  
    "StrokeThickness": 1.0,  
    "Points": [  
      "183,121",  
      "182,122",  
      "180,122",  
      "179,123",  
      "177,123",  
      "176,124",  
      "174,124",  
      "173,125",  
    ]  
  },  
  {  
    "Shape": "polygon",  
    "StrokeThickness": 1.0,  
    "Points": [  
      "262,135",  
      "260,137",  
      "260,138",  
      "259,139",  
      "259,142",  
      "260,143",  
      "260,144",  
      "261,144",  
      "262,145",  
      "264,145",  
      "265,144",  
      "266,144",  
      "266,143",  
      "267,142",  
      "267,139",  
      "266,138",  
      "266,137",  
      "264,135"  
    ]  
  }  
]
```