

2020 P. Borianne / CIRAD  
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Annotator is based on the Java application ImageJ developed by Wayne Rasband and distributed under a CeCILL-B license.

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## User guide

Annotator was developed in the framework of the AgroDeep (AD) project; it allows to define visually, and if necessary to correct expert annotations for a specialized neural network. It is distributed under a Cecill-B license.

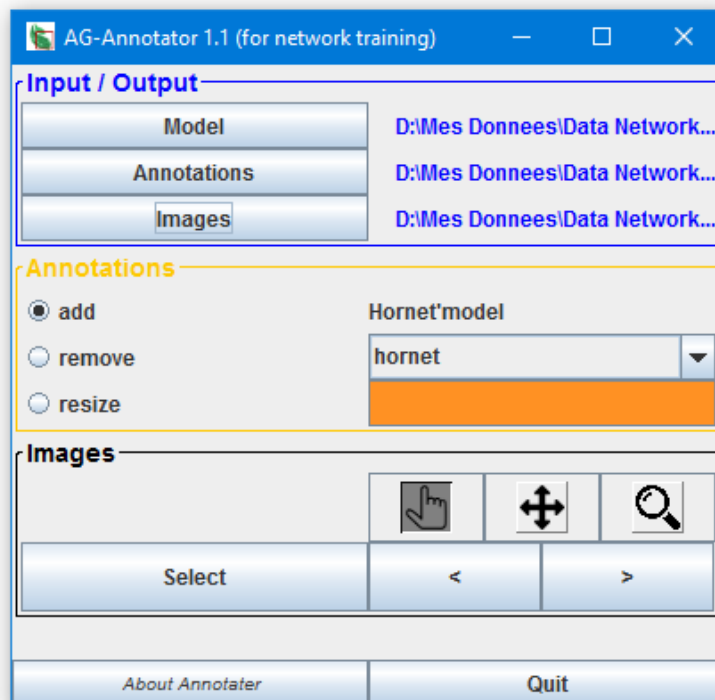


Figure 1: GUI



## Principle

Training and validation of a network require annotated data sets. Annotation consists of defining rectangular areas on the color images that encompass the objects of interest. Each annotation is defined by the coordinates of the lower left point, the width and height of its rectangle and the name of the class to which it relates. The annotations of the image toto.jpg are grouped in the file toto.txt which will be archived in a specific folder.

## Input / Output block

Here are specified the data model to be used and the folders containing the images and type files respectively.

- The **Model** file to use: this is a TXT file that specifies the name and color of the object classes present in the images

```
# model HORNETS
# the color is defined by the rgb string where r, g and b are respectively the red,
green and blue componantes ;
# these components range from 0 to 255
#
MODELNAME  Hornet
OBJNAME    hornet
OBJCOLOR   255 145 35
OBJNAME    bee
OBJCOLOR   35 145 255
OBJNAME    capture
OBJCOLOR   255 35 255
```

- The **Annotations** folder: it contains TXT files with exactly the same radical as the images contained in the Images folder.

ID	BX	BY	Width	Height	Name
1	1823	480	43	18	hornet
2	411	895	23	37	hornet
3	646	868	32	50	capture
4	1770	723	28	50	hornet
5	371	1145	52	55	bee
6	146	1164	45	57	bee
7	422	1387	41	63	bee
8	348	1283	43	49	capture
9	356	1359	50	60	bee
10	394	1241	40	56	bee
11	325	1190	32	51	bee
12	356	1221	44	56	bee



- The **Images** folder: it contains Image files (png, jpg, JPEG,...) with the same radical as the files contained in the Annotations folder.

### Annotations block

The radio buttons (on the left) select the function that will be applied, the dropdown list (on the right) the current object class.

- **add**: creation of a bounding box tagged with the selected class.
  1. Bring the mouse on one of the corners of the rectangle to be drawn,
  2. Press the left mouse button to set this point and move the mouse to draw the box,
  3. Release the mouse button: the box is defined.
- **remove**: deletion of a box displayed on the screen.
  1. Use the left mouse button to select a point on the edge of the box to be deleted,
  2. Release the button: the box disappears from the image.
- **resize**: adjust the shape of the enclosing box.
  1. Select with the left mouse button a point on the edge of one of the bounding boxes in the image; release: the box is selected and its control points appear;
  2. Select with the left mouse button one of the 8 control points of the box, move and release the mouse: the box is deformed..

These functions can only be used in **Selection mode**.



Fig. 4: representation of the enclosing boxes and control points.



## Images block

Allows you to select or navigate through the images in the folder designated in the Inputs/Outputs block. Changing an image causes the changes made to the current image to be saved.



**Selection mode**: to manage the annotations of the current image.



**Moving mode**: to move the current image.

*Select a point of the image with the left mouse button, move the mouse and release the button: the image has moved in the view window.*



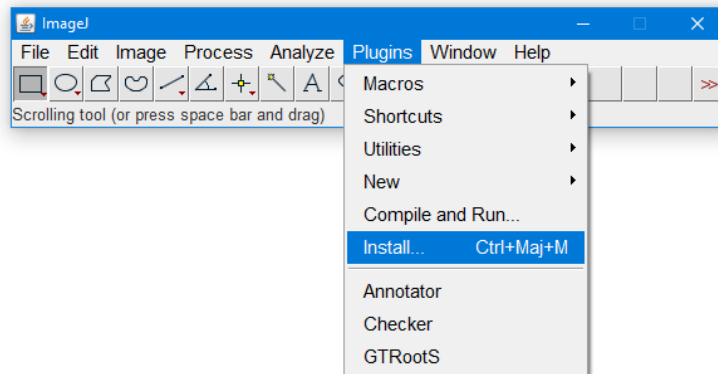
**Magnification mode**: to zoom in or out of the image in the view window.

*Click the left mouse button to zoom in, click the right mouse button to zoom out.*

## Downloading / Installation

Prerequisite: Install the **ImageJ** or **Fiji** application on the computer.

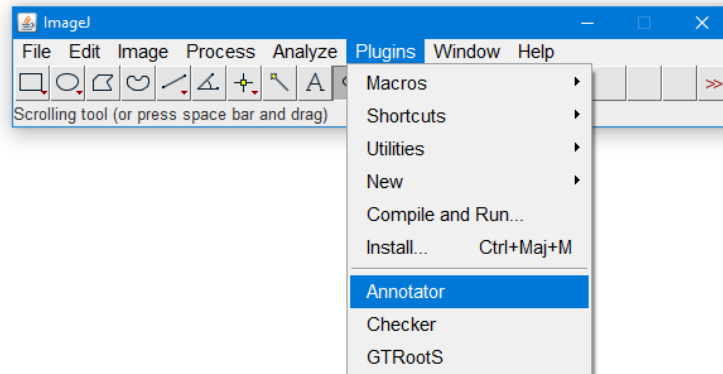
Once downloaded to the computer, the **Annotator.jar** plugin must be copied to the plugins subfolder in the root directory of **ImageJ** or **Fiji** or installed using the GUI of those applications. In both cases, the applications will have to be restarted.





## Starting

The Checker plugin is launched from the graphical interface of ImageJ or FijiTéléchargement / Installation



## Citation

Borienne, P., 2020. <http://amap-dev.cirad.fr/projects/annotator/wiki>