AntBiosecurity Auto data strure and annotation user manual

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# Set up a conda environment using it for the first time (Installing it on your own PC)

* Install anaconda:  
  <https://www.anaconda.com/docs/getting-started/anaconda/install#windows-installation>
* Install either jupyter lab or jupyter notebook
  + Open anaconda prompt
  + For jupyterlab, Run: pip install jupyterlab
* Create a virtual environment from the yml file

conda env create -f ant\_environment.yml -n ant\_env

* Conda activate ant\_env

# start it up

jupyter notebook mynotebook

# Go to 'Kernel->Change kernel' and select auto-annotator as your kernel

# select it (restart kernel etc if needed) and you should be good

**When using it**

1. Open Anaconda Prompt
2. Activate the auto-annotation environment using the command: **activate** ant\_env
3. Switch to the auto-annotator directory using the command: **cd ant\_auto-annotation**
4. Open jupyter notebook using the command: **jupyter notebook**
5. Launch the auto annotator script by opening [**Auto\_Annotator.ipynb**](http://localhost:8888/notebooks/ant_auto-annotation/Auto_Annotator.ipynb)
6. Clear all cells by opening the Kernal menu and selecting **Restart & Clear Output**
7. Run the “Import packages” cell by clicking into the cell and pressing **Shift+Enter**
8. In the “Load auto-annotation model” cell, rename the “class\_mapping” line to the species name you will be working on (e.g. Pheidole\_megacephala)
9. Copy the species name into the “dataset\_path” line in the next cell and then run both cells as well as the confidence\_threshold cell
10. Check the datasets folder location in Windows Explorer to see if a folder with the species name has been created (Andreas is working on automating the folder creation process)
11. If not, create a folder with the species name (e.g. Pheidole\_megacephala)
12. Make sure you have images in the folder before running the “for loop” cell and labelImg
13. Check for false positives and delete anything that isn’t an ant (including blurry ants)
14. Add boxes around ants that were missed by the auto-annotator
15. Once finished, upload the images folder and XML files to SharePoint