Data Annotation Guide

The goal of this process is to get bounding boxes of a single fish in the images. The result for each tracked fish should be a directory that contain the bounding box for each frame.
To do this we follow the stages below for each fish:

1) Create a directory that contain images of all the video frames.
2) Open the annotation tool, set format to YOLO, and specify the class name.
3) For each image: mark a single bounding box on the same single fish, and save.
4) Repeat (3) for all images. The the end the directory should contain a text file for each image in which the fish exist.

1. Create a directory with video frames

Run the script:

extract_images_from_video.py

This will write the images to, e.g., the folder:

pathOut = '.\data\video\VIDEO_20230223_133606599'

2. Use the annotation tool

pip install labelImg

Working sequence with labelImg for fish tracking annotation:

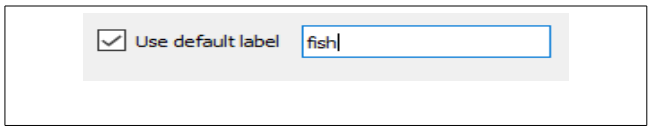
1) Open the annotation tool by running from the terminal:

```
>labelImg
```

Additional info can be found here: https://pypi.org/project/labelImg/

2) Change save format to 'YOLO' (icon on the left, blow the 'save' icon):

3) Check the 'Use default label' checkbox. Fill 'fish' in class name:



4) Click 'Open Dir' and select directory with images to annotate.
5) Mark a bounding box around a single fish in the image (Edit → Create RectBox, or W shortcut).
5) Click 'save'. File name should be the same number as the image (this is the frame number in the video).
6) Click 'Next image' to go the the next frame.
7) Repeat for all frame. Make sure that you mark the same fish in all frames.