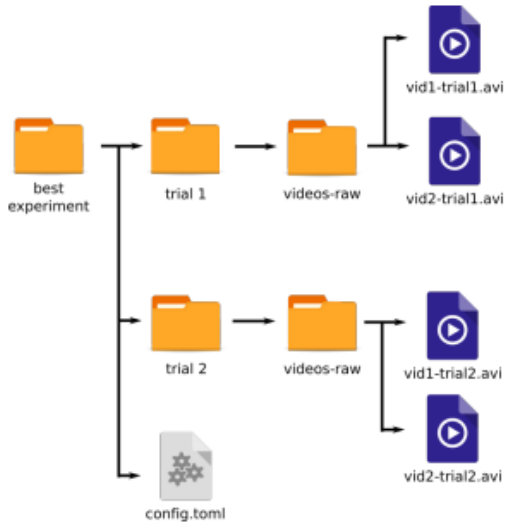
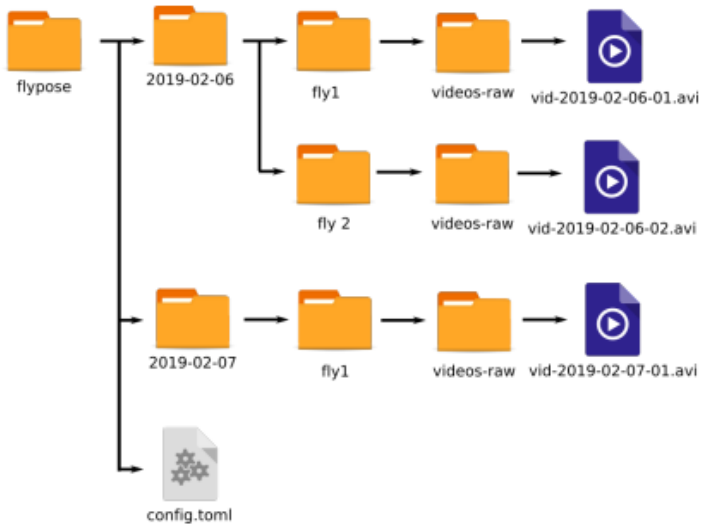
# Anipose Setup




```
experiment/config.toml
experiment/trial 1/videos-raw/vid1-trial1.avi
experiment/trial 1/videos-raw/vid2-trial1.avi
experiment/trial 2/videos-raw/vid1-trial2.avi
experiment/trial 2/videos-raw/vid2-trial2.avi
```

There is one main experiment folder, and some subfolders under that. The names for the experiment and session folders can be whatever you like.

Furthermore, the nesting can be arbitrarily large. Thus, an equally valid structure could be (here with nesting of 2 folders instead of 1 as above, note the arbitrary names as well):




1. Anipose installation https://anipose.readthedocs.io/en/latest/tutorial.html contains all of the basic setups steps necessary.

2. Properly setting up folders
https://anipose.readthedocs.io/en/latest/tutorial.html#setting-up-the-project

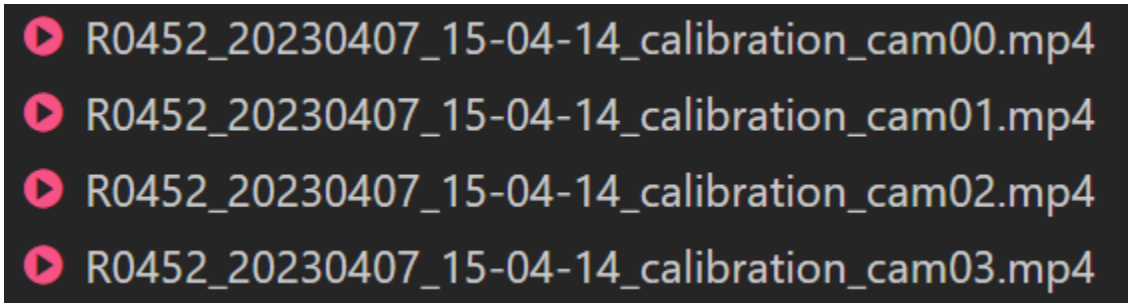
is important for file navigation. I would recommend setting up the file system as shown in the bottom example above, where sessions would be videos from each date, and multiple rat numbers could be added within a single date. If you do this, make sure to set nesting in config.toml to 2.

3. The correct config.toml board settings must be used in order for calibration to take place. For pavlovian board settings, ensure you use the following settings:

```
[calibration]
# checkerboard / charuco / aruco
board_type = "charuco"

# width and height of grid
board_size = [10, 8]

# number of bits in the markers, if aruco/charuco
board_marker_bits = 4

# number of markers in dictionary, if aruco/charuco
board_marker_dict_number = 50

# length of marker side
board_marker_length = 10 # mm

# If aruco, length of marker separation
# board_marker_separation_length = 1 # mm

# If charuco or checkerboard, square side length
board_square_side_length = 20 # mm

animal_calibration = false

fisheye = false
```

## Continuous Usage

1. Download the calibration videos.
2. Ensure that the video names are all the same, with the exception of the differing sequential cam number.

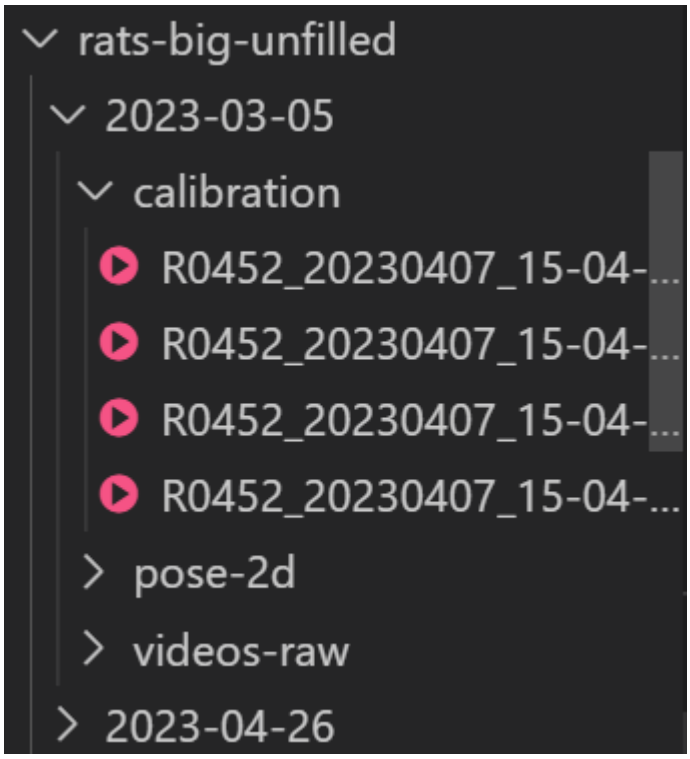



3. Ensure that the extension and cam regex match what anipose is expecting. Alter config.toml if necessary.

```
video_extension = 'mp4'
```

```
cam_regex = 'cam0([0-3])'
```

4. In order to run calibration on videos, the videos must be placed in the calibration folder for that particular session.




Note the above image was made with only single nesting. With double nesting:
rats-pavlovian-unfiled -> 202X-XX-XX -> Rat# -> calibration

5. The simplest way to run anipose is through the Anaconda command line. Navigate to the unfilled folder, and type “anipose calibrate”. This command will run across all upper level sessions. That means any calibration folders that are missing a calibration.toml will have one generated inside of the calibration folder, as long as they have videos in there as well.

6. Successful usage will output calibration.toml and detections.pickle in the calibration folder. Failed output will just produce detections.pickle. In order to retry a successful calibration, delete calibration.toml. In order to retry a failed output, delete detections.pickle.

## General Notes

- I frequently ran into version mismatch errors where different packages required various verisons of opnecv specifically.
- While I typically use WSL:Ubutntu-22.04 as my package manager I was not able to properly get it to work but had no issues using Anaconda. I think the issues were my fault, but just safer to use Anaconda.
- Make sure that you properly link the molder_folder in config.toml to the DLC folder. Despite not needing it for calibration, anipose wont run without a path.

```
import pandas as pd
obj = pd.read_pickle(r'detections.pickle')
print(obj)
```

- If you want to look at the pickle file

Contact:
Feel free to reach out to me with any another questions, I’d be happy to see if I could help.
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