2017/09/16

**(0) Build behavior array (including merge\_error\_saved), track whiskers**

(1) prebuild\_JK

(1)-1. Run *follicle\_n\_mask*. GUI for selecting follicle position and masks. For 2-view, instructed to select top-view (right half) first, and then the front-view (at the left half).

Edge detection, inflation, and then clicking near both ends of mask.

→ *mouseName+sessionName\_follicle\_n\_mask.mat* saves masks, dimension of the FOV, and follicle points

(1)-2. *postmeasurements*

(1)-2.a. *jkmeasurements\_dir*

(1)-2-a-i). *jkmeasurements*

Read *.measurements* file and refine the result to have 1 in each view.

Sometimes there are errors, and these are output to *\_dir*

* **If these are too much, need to track whiskers again (check default.parameters file)**

Based on errorlist, make include, and save it along with masks and dimension of the FOV.

(1)-3. Run *WhiskerTrial, WhiskerSignalTrial\_2pad, and WhiskerTrialLite*

These are to build touch plane.

* Not using WhiskerTrialLiteI (I at the end, probably meaning inertia). Force calculation is not correct yet.

*WhiskerTrial* → *\_WT.mat* file.

WhiskerSignalTrial → performs fit\_polys\_roi, but this requires fit\_polys. If 'polyRoiInPix' is not given as input, then it is set to be [0, 200] in makeAllDirectory\_WhiskerSignalTrial.

(2) *touch\_hyperplane*

Read behavior file, and depending on the trial type and from intersection coordinates produced by *WhiskerSignalTrial\_2pad*, detect touch hyperplanes. GUI, and needs visual inspection and manual selection.

(3) *buildWhiskerTouchArray\_2pad*

Based on behavior and *WhiskerSignalTrial\_2pad*, build *WhiskerTrialLite\_2pad*. This is the ultimate array having touch-related parameters.

* **Need to include relative change of angle and curvature.**

Changes made from previous version of packages.

1. Mask has fixed polynomial fit degree: 2 (*WhiskerTrial* – *set\_mask\_from\_points*). It is shown directly from the GUI right after choosing the mask points (in *follicle\_n\_mask*).

2. pole\_available\_frames = [550, 200]; % first timepoint is 1, not 0. [frames from the beginning, frames from the end]. 2017/04/13 JK (WhiskerSignalTrial – properties). Need to refine this (either as input, because of differences in each experiment settings, or … what else?)

3. w.fit\_polys\_roi(roiAll{ind},ind); (WhiskerSignalTrial – obj = WhiskerSignalTrial(w, varargin)). roiAll{ind} is applied to every tid, making roiAll{end} to be effective to every whisker. Allocating to different tid is treated in WhiskerTrial – fit\_polys\_roi.

4. All strmatch(A,B,’exact’) is changes to strcmp(A,B).

5. polyFits changed to account for masks. (WhiskerTrial – fit\_polys)

6. doFits(frame,k). Added k here as an input for different mask in different frame. (WhiskerTrial – fit\_polys).

**7. For now, ws.time{1} and {2} can be different (when nothing is tracked at one side).**