Meeting Report for August 14th, 2020 (Carcea, Froemke, and Cunningham Labs)

Data Analyzed:

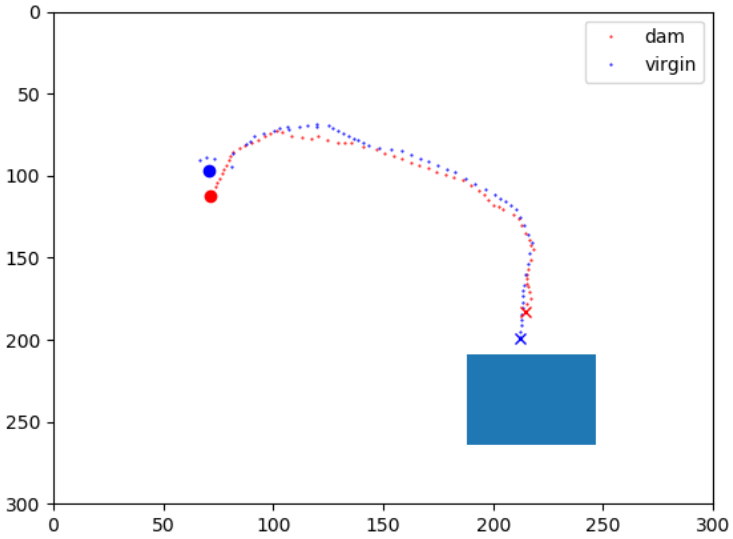
- RT_CohousingTemp

This dataset consists of the following videos:
* TempTrial2_left.mpg * TempTrial5_middle.mpg * TempTrial7_right.mpg * TempTrial8_right.mpg * TempTrial9_left.mpg * TempTrial10_middle.mpg * TempTrial11_left.mpg * TempTrial12_right.mpg * TempTrial14_left_middle.mpg * TempTrial15_left_right.mpg * TempTrial16_middle.mpg * TempTrial17_right.mpg

Note: TempTrial_14 was excluded from this analysis because I could not locate a config file for it at the moment. It will be included in future analyses. Total analysis time: ~6 hours per video x 11 videos * 3 mice = 198 hours of behavior data.

Analysis Performed:

- Automated video preprocessing, tracking, and custom postprocessing (SocialDatasetv2 module) as packaged on the AWS AMI carcea_stable_02_04_2020 (ami-0944e125acc999543). This portion of the analysis was performed by Zahra Adahman, who uploaded the datasets with appropriate configuration files. I did not rerun video processing on these videos myself, and started with traces that already existed for the sake of efficiency.
- Automated extraction of pursuit events. I took the output of the automated tracking pipeline, and isolated out pursuit events where one animal is chasing another. In order to perform this isolation I found all detected pursuit times, took a window around them, and saved this data independently for easy querying. To be somewhat conservative, I further filtered pursuit events (here defined simply by the velocities of both animals) by the following criteria: 1) animals must be closer than 30 pixels at some point in the pursuit event. 2) animal speeds must not exceed 20 units/frame during the pursuit event. I did not include a criterion for being outside the nest, as nests here were fairly loose in construction, and animals could be tracked within them.
- Plots of each individual filtered pursuit event. I generated figures that plot the start (circle), end (cross) and trajectory of individual pursuit events that also include nest position, like so:



- Quantification of pursuit events over time. I aggregated the pursuit events