Masked Video File

Results File

Masked Video
VideoName.hdf5

- **Masks** (3D array of intensities)
- **Full Frames** (full frames every 10 min ~)
+ **metadata…**

Trajectories Data
VideoName_**trajectories** .hdf5

/plate_worms (worm IDs [joined and unjoined] & blob features)
+ **metadata…**

worm_index: [2319183x1 int32]
worm_index_joined: [2319183x1 int32]
frame_number: [2319183x1 int32]
coord_x: [2319183x1 single]
coord_y: [2319183x1 single]
area: [2319183x1 single]
perimeter: [2319183x1 single]
box_length: [2319183x1 single]
box_width: [2319183x1 single]
quirkiness: [2319183x1 single]
compactness: [2319183x1 single]
box_orientation: [2319183x1 single]
solidity: [2319183x1 single]
intensity_mean: [2319183x1 single]
intensity_std: [2319183x1 single]
threshold: [2319183x1 int32]
bounding_box_xmin: [2319183x1 int32]
bounding_box_xmax: [2319183x1 int32]
bounding_box_ymin: [2319183x1 int32]
bounding_box_ymax: [2319183x1 int32]
segworm_id: [2319183x1 int32]
hu0: [2319183x1 single]
hu1: [2319183x1 single]
hu2: [2319183x1 single]
hu3: [2319183x1 single]
hu4: [2319183x1 single]
hu5: [2319183x1 single]
hu6: [2319183x1 single]

Skeleton Data
VideoName_**skeleton**.hdf5

/trajectories_data (sorted, smoothed, filtered version of plate_worms.
If index=-1 means filtered out.
plate_worms_id refers back to rows of plate_worms.
skeleton_id refers back to rows of skeleton.
+ control flags
+ mask parameters :

frame_number: [2317374x1 int32]
worm_index_joined: [2317374x1 int32]
plate_worm_id: [2317374x1 int32]
skeleton_id: [2317374x1 int32]
coord_x: [2317374x1 single]
coord_y: [2317374x1 single]
threshold: [2317374x1 single]
has_skeleton: [2317374x1 uint8]
roi_size: [2317374x1 single]
area: [2317374x1 single]
timestamp_raw: [2317374x1 double]
timestamp_time: [2317374x1 double]
worm_label: [2317374x1 int64]
worm_index_N: [2317374x1 int32]
)

/skeleton (3D array : worm_index x segment number (1:49) x Xycoordinates
/contour_side1(same format as skeleton)
/contour_side2 (same format as skeleton)
/contour_width (2D array : ID x segment number (1:49))
+ other ID feature arrays
+ **metadata…**

Features Data
VideoName_**features**.hdf5

/features_timeseries (2D table worm_index which is worm_index_joined in / trajectories_data , timestamp, motion_modes, features1, features2,…,features53)
/feature_ means (2D table worm_index , n_frames, n_valid_skel, feature1,…,feature726)
/worm_1
.
.
.
/worm_n **/skeletons** (smoothed , includes timestamps, units µm)
/features_events/'feature name' (each a 1D array)
.
.
.
/worm_N

Intensity Data
VideoName_**intensity** .hdf5

(The intensity along each element. In the future it is to identify the worms after a colloid/ trajectories fragmented.)