Movement Validation - Code Progress

Repository	Language	Author(s)	Intended Aspect	Experiment	Video	Contour (aka "Machine Vision")	Calculation Pipeline Pre-Features* (inc. Normalization)	Features	New Features**	Statistics	Fitness Function	Other Components GUI
SegWorm	Matlab	Yemini	real worms	performed by Laura Grundy	raw videos at Schafer Lab	yes	yes	yes	no	yes	no	yes
							validated			*validated*		
SegWormMatlabClasses	Matlab	Hokanson	real worms	none performed	no	no	no	yes	no	yes	no	no
				should be the same	*not yet validated*	*not yet validated*	*nearly validated*			*not yet validated*		*not yet validated*
movement_validation	Python	Hokanson, Currie	real worms	none performed	raw videos on Stephen's Ext Hard Drive	(Aaron working on this)	(Manuel working on this)	yes	(Adam Marblestone's Team looking at this)	(Michael working on this)	not yet	not yet
			simulated worms	simulation on Geppetto	we have opted not to generate "video"	simulation "contour" from Geppetto						
						Aaron working on comparing		*not yet compared*				
Track-A-Worm	Matlab	Wang, Wang	real worms	??	??	yes	??	yes	not applicable	??	??	??

* The original Yemini code stored simply-calculated features like width and skeleton along with the segmented contour, as a part of the machine vision step. Here we show this as a separate step, since we will need to calculate these ourselves if we are supplied only contour data from Geppetto. Also included here in the pre-features step is the reducing of the number of points lengthwise on the worm to just 49 (the "normalized" worm).

** "New features" are totally new features not in the original Yemini code. The movement_validation repository is open to academics who wish to add their own feature calculations, so some could add their own here.

Note: "yes" / "no" refers to whether that code compenent has been implemented.

Note: Bolded sections are areas we intend to complete. Other areas, such as Pre-Features in SegWormMatlabClasses, are not intended to be implemented, and this shown by not bolding.

Note: Only the movement_validation repo is being actively worked on. This is intended to be the finished product for use by scientists and by OpenWorm.