Movement Validation - Code Progress

				Calculation Pipeline								Other Components
Repository	**Language**	**Author(s)**	**Intended Aspect**	**Experiment**	**Video**	**Contour (aka "Machine Vision")**	**Pre-Features* (inc. Normalization)**	**Features**	**New Features****	**Statistics**	**Fitness Function**	**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)**	**(Miguel 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		*may be 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 component 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.