Matave Identification ToolBox
A State Space Approach
Version 12.5

Linear System Algorithms

Function name	*Description*	*Status*	*Model*
eradc	Eigensystem Realization Algorithm Data Correlation	Done	MIMO
ocid	Observer Controller IDentification	Done	MIMO
rls	Recursive Least Square	Done	SISO
n4sid	Numerical algorithms for Subspace State Space System IDentification	Done	MIMO
cca	Canonical Correlation Analysis for Subspace Identification	Done	MIMO
sra	Stochastic Realization Algorithm	Done	SISO
moesp	Multivariable Output-Error State Space	Done	MIMO

Nonlinear System Algorithms

Function name	*Description*	*Status*	*Model*
sindy	Sparse Identification of Nonlinear Dynamics	Done	MIMO
sr_ukf_parameter_estimation	Estimate parameters for a nonlinear system. Notice that this is parameter estimation and very similar to system identification	Done	MIMO

Analysis

Function name	*Description*	*Status*	*Data*
spa	Plot bode spectral analysis plot using Fast Fourier Transform	Done	Requried
idbode	Plot bode diagram from frequency data	Done	Requried
rpca	Filter data using Robust Principal Component Analysis	Done	Requried
ica	Separate signals from each other so they are independent	Done	Requried

Filtering

Function name	*Description*	*Status*	*Model*
filtfilt2	Zero phase filtering with low pass filter. Not recursive.	Done	No
pf	Particle filter state estimation for non-gaussian noise	Done	No
sr_ukf_state_estimation	Estimate states for a nonlinear system using square root uncented kalman filter.	Done	Yes

Classification

Function name	***Description***	***Status***	***Data***
svm	Support Vector Machine with C generation for CControl	Done	Requried

Miscellaneous

Function name	***Description***	***Status***	***Internet connection***
updatemataveid	Update the Mataveid library	Done	Requried