MATLAB 2006b ONLINE-SVR REFERENCE MANUAL

RETURN	METHOD NAME	PARAMETERS	DESCRIPTION
INITIALIZATION			
	OnlineSVR		New OnlineSVR
ATTRIBUTES			
	C		*C* parameter
	Epsilon		*Epsilon* parameter
	KernelType		*KernelType* parameter ('Linear', 'Polynomial', 'RBF', 'GaussianRBF', 'ExponentialRBF', 'MLP')
	KernelParam		*KernelParam* parameter
	KernelParam2		*KernelParam2* parameter
	Verbosity		Level of verbosity of messages 0: no messages 1: training informations 2: training details 3: debug informations
	StabilizedLearning		Stabilize weights after training
	ShowPlots		Show plots during training
	MakeVideo		Make a video of training
	VideoTitle		Video title
	FramesNumber		Number of frames of the video
LEARNING OPERATIONS			
[SVR, Flops]	Train	NewSamplesX NewSamplesY	Train OnlineSVT with NewSamples
[SVR, Flops]	Forget	Indexes	Forget samples Indexes
[SVR, Flops]	Stabilize		Stabilize the weights until KKT conditions are verified
PREDICT / MARGIN OPERATIONS			
[PredictedValues]	Predict	SampletSetX	Predict the Y values
[MarginValues]s	Margin	SampleSetX SampleSetY	Find the margin (f(x)-y)
CONTROL OPERATIONS			
[true/false]	VerifyKKTConditions		Check if KKT conditions are verified in current OnlineSVR
INPUT / OUTPUT OPERATIONS			
	ShowSetsInformations		Show OnlineSVR's details
PLOT / VIDEO OPERATIONS			
	BuildPlot		Build plot of current OnlineSVR
I/O OPERATIONS			
	ShowInfo		Show info about OnlineSVR
	ShowDetails		Show details about OnlineSVR

MATLAB ONLINE-SVR EXAMPLES

```
% Initializations
clear all;
close all;
clear classes;

% Build the OnlineSVR
SVR = OnlineSVR;

% Set Parameters
SVR = set(SVR,      'C',                    10, ...
                    'Epsilon',              0.1, ...
                    'KernelType',           'RBF', ...
                    'KernelParam',          30, ...
                    'AutoErrorTollerance',  true, ...
                    'Verbosity',            1, ...
                    'StabilizedLearning',   true, ...
                    'ShowPlots',            true, ...
                    'MakeVideo',            false, ...
                    'VideoTitle',           '');

% Build Training set
TrainingSetX = rand(20,1);
TrainingSetY = sin(TrainingSetX*pi*2);

% Training
SVR = Train(SVR, TrainingSetX,TrainingSetY);

% Show Info
ShowInfo (SVR);

% Predict some values
TestSetX = [0; 1];
TestSetY = sin(TestSetX*pi*2);
PredictedY = Predict(SVR, TestSetX);
Errors = Margin(SVR, TestSetX,TestSetY);
disp(' ');
disp('Some results:');
disp(['f(0)=' num2str(PredictedY(1)) '     y(0)=' num2str(TestSetY(1)) '
margin=' num2str(Errors(1))]);
disp(['f(1)=' num2str(PredictedY(2)) '     y(1)=' num2str(TestSetY(2)) '
margin=' num2str(Errors(2))]);
disp(' ');

% Forget first 4 samples
SVR = Forget(SVR, 1:4);

% Build plot
BuildPlot(SVR);
```