JavaScript is disabled on your browser.

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* [Tree](http://docs.google.com/package-tree.html)
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* [Prev Class](http://docs.google.com/org/opencv/video/FarnebackOpticalFlow.html)
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* [Frames](http://docs.google.com/index.html?org/opencv/video/KalmanFilter.html)
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org.opencv.video

## Class KalmanFilter

* java.lang.Object
  + org.opencv.video.KalmanFilter
* public class KalmanFilter  
  extends java.lang.Object  
  Kalman filter class. The class implements a standard Kalman filter <http://en.wikipedia.org/wiki/Kalman\_filter>, CITE: Welch95 . However, you can modify transitionMatrix, controlMatrix, and measurementMatrix to get an extended Kalman filter functionality. **Note:** In C API when CvKalman\\* kalmanFilter structure is not needed anymore, it should be released with cvReleaseKalman(&kalmanFilter)

### Constructor SummaryConstructors

| Constructor and Description |
| --- |
| [**KalmanFilter**](http://docs.google.com/org/opencv/video/KalmanFilter.html#KalmanFilter())() |
| [**KalmanFilter**](http://docs.google.com/org/opencv/video/KalmanFilter.html#KalmanFilter(int,%20int))(int dynamParams, int measureParams) |
| [**KalmanFilter**](http://docs.google.com/org/opencv/video/KalmanFilter.html#KalmanFilter(int,%20int,%20int))(int dynamParams, int measureParams, int controlParams) |
| [**KalmanFilter**](http://docs.google.com/org/opencv/video/KalmanFilter.html#KalmanFilter(int,%20int,%20int,%20int))(int dynamParams, int measureParams, int controlParams, int type) |

### Method SummaryMethods

| Modifier and Type | Method and Description |
| --- | --- |
| static [KalmanFilter](http://docs.google.com/org/opencv/video/KalmanFilter.html) | [**\_\_fromPtr\_\_**](http://docs.google.com/org/opencv/video/KalmanFilter.html#__fromPtr__(long))(long addr) |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**correct**](http://docs.google.com/org/opencv/video/KalmanFilter.html#correct(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurement) Updates the predicted state from the measurement. |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_controlMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_controlMatrix())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_errorCovPost**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_errorCovPost())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_errorCovPre**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_errorCovPre())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_gain**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_gain())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_measurementMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_measurementMatrix())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_measurementNoiseCov**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_measurementNoiseCov())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_processNoiseCov**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_processNoiseCov())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_statePost**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_statePost())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_statePre**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_statePre())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**get\_transitionMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#get_transitionMatrix())() |
| long | [**getNativeObjAddr**](http://docs.google.com/org/opencv/video/KalmanFilter.html#getNativeObjAddr())() |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**predict**](http://docs.google.com/org/opencv/video/KalmanFilter.html#predict())() Computes a predicted state. |
| [Mat](http://docs.google.com/org/opencv/core/Mat.html) | [**predict**](http://docs.google.com/org/opencv/video/KalmanFilter.html#predict(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) control) Computes a predicted state. |
| void | [**set\_controlMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_controlMatrix(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) controlMatrix) |
| void | [**set\_errorCovPost**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_errorCovPost(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) errorCovPost) |
| void | [**set\_errorCovPre**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_errorCovPre(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) errorCovPre) |
| void | [**set\_gain**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_gain(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) gain) |
| void | [**set\_measurementMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_measurementMatrix(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurementMatrix) |
| void | [**set\_measurementNoiseCov**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_measurementNoiseCov(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurementNoiseCov) |
| void | [**set\_processNoiseCov**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_processNoiseCov(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) processNoiseCov) |
| void | [**set\_statePost**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_statePost(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) statePost) |
| void | [**set\_statePre**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_statePre(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) statePre) |
| void | [**set\_transitionMatrix**](http://docs.google.com/org/opencv/video/KalmanFilter.html#set_transitionMatrix(org.opencv.core.Mat))([Mat](http://docs.google.com/org/opencv/core/Mat.html) transitionMatrix) |

### Methods inherited from class java.lang.Objectequals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

### Constructor Detail

#### KalmanFilter public KalmanFilter()

#### KalmanFilter public KalmanFilter(int dynamParams, int measureParams)Parameters:dynamParams - Dimensionality of the state.measureParams - Dimensionality of the measurement.

#### KalmanFilter public KalmanFilter(int dynamParams, int measureParams, int controlParams)Parameters:dynamParams - Dimensionality of the state.measureParams - Dimensionality of the measurement.controlParams - Dimensionality of the control vector.

#### KalmanFilter public KalmanFilter(int dynamParams, int measureParams, int controlParams, int type)Parameters:dynamParams - Dimensionality of the state.measureParams - Dimensionality of the measurement.controlParams - Dimensionality of the control vector.type - Type of the created matrices that should be CV\_32F or CV\_64F.

### Method Detail

#### \_\_fromPtr\_\_ public static [KalmanFilter](http://docs.google.com/org/opencv/video/KalmanFilter.html) \_\_fromPtr\_\_(long addr)

#### correct public [Mat](http://docs.google.com/org/opencv/core/Mat.html) correct([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurement) Updates the predicted state from the measurement.Parameters:measurement - The measured system parameters Returns:automatically generated

#### get\_controlMatrix public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_controlMatrix()

#### get\_errorCovPost public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_errorCovPost()

#### get\_errorCovPre public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_errorCovPre()

#### get\_gain public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_gain()

#### get\_measurementMatrix public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_measurementMatrix()

#### get\_measurementNoiseCov public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_measurementNoiseCov()

#### get\_processNoiseCov public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_processNoiseCov()

#### get\_statePost public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_statePost()

#### get\_statePre public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_statePre()

#### get\_transitionMatrix public [Mat](http://docs.google.com/org/opencv/core/Mat.html) get\_transitionMatrix()

#### getNativeObjAddr public long getNativeObjAddr()

#### predict public [Mat](http://docs.google.com/org/opencv/core/Mat.html) predict() Computes a predicted state.Returns:automatically generated

#### predict public [Mat](http://docs.google.com/org/opencv/core/Mat.html) predict([Mat](http://docs.google.com/org/opencv/core/Mat.html) control) Computes a predicted state.Parameters:control - The optional input control Returns:automatically generated

#### set\_controlMatrix public void set\_controlMatrix([Mat](http://docs.google.com/org/opencv/core/Mat.html) controlMatrix)

#### set\_errorCovPost public void set\_errorCovPost([Mat](http://docs.google.com/org/opencv/core/Mat.html) errorCovPost)

#### set\_errorCovPre public void set\_errorCovPre([Mat](http://docs.google.com/org/opencv/core/Mat.html) errorCovPre)

#### set\_gain public void set\_gain([Mat](http://docs.google.com/org/opencv/core/Mat.html) gain)

#### set\_measurementMatrix public void set\_measurementMatrix([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurementMatrix)

#### set\_measurementNoiseCov public void set\_measurementNoiseCov([Mat](http://docs.google.com/org/opencv/core/Mat.html) measurementNoiseCov)

#### set\_processNoiseCov public void set\_processNoiseCov([Mat](http://docs.google.com/org/opencv/core/Mat.html) processNoiseCov)

#### set\_statePost public void set\_statePost([Mat](http://docs.google.com/org/opencv/core/Mat.html) statePost)

#### set\_statePre public void set\_statePre([Mat](http://docs.google.com/org/opencv/core/Mat.html) statePre)

#### set\_transitionMatrix public void set\_transitionMatrix([Mat](http://docs.google.com/org/opencv/core/Mat.html) transitionMatrix)

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* [Next Class](http://docs.google.com/org/opencv/video/SparseOpticalFlow.html)
* [Frames](http://docs.google.com/index.html?org/opencv/video/KalmanFilter.html)
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