JavaScript is disabled on your browser.

* [Overview](http://docs.google.com/overview-summary.html)
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* [Next Class](http://docs.google.com/org/opencv/features2d/ORB.html)
* [Frames](http://docs.google.com/index.html?org/opencv/features2d/MSER.html)
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org.opencv.features2d

## Class MSER

* java.lang.Object
  + [org.opencv.core.Algorithm](http://docs.google.com/org/opencv/core/Algorithm.html)
    - [org.opencv.features2d.Feature2D](http://docs.google.com/org/opencv/features2d/Feature2D.html)
      * org.opencv.features2d.MSER
* public class MSER  
  extends [Feature2D](http://docs.google.com/org/opencv/features2d/Feature2D.html)

Maximally stable extremal region extractor The class encapsulates all the parameters of the %MSER extraction algorithm (see [wiki article](http://en.wikipedia.org/wiki/Maximally\_stable\_extremal\_regions)).

* + there are two different implementation of %MSER: one for grey image, one for color image
  + the grey image algorithm is taken from: CITE: nister2008linear ; the paper claims to be faster than union-find method; it actually get 1.5~2m/s on my centrino L7200 1.2GHz laptop.
  + the color image algorithm is taken from: CITE: forssen2007maximally ; it should be much slower than grey image method ( 3~4 times )
  + (Python) A complete example showing the use of the %MSER detector can be found at samples/python/mser.py

### Method SummaryMethods

| Modifier and Type | Method and Description |
| --- | --- |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**\_\_fromPtr\_\_**](http://docs.google.com/org/opencv/features2d/MSER.html#__fromPtr__(long))(long addr) |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create())() Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int))(int \_delta) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int))(int \_delta, int \_min\_area) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int))(int \_delta, int \_min\_area, int \_max\_area) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double,%20double))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double,%20double,%20int))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double,%20double,%20int,%20double))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double,%20double,%20int,%20double,%20double))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold, double \_min\_margin) Full constructor for %MSER detector |
| static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) | [**create**](http://docs.google.com/org/opencv/features2d/MSER.html#create(int,%20int,%20int,%20double,%20double,%20int,%20double,%20double,%20int))(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold, double \_min\_margin, int \_edge\_blur\_size) Full constructor for %MSER detector |
| void | [**detectRegions**](http://docs.google.com/org/opencv/features2d/MSER.html#detectRegions(org.opencv.core.Mat,%20java.util.List,%20org.opencv.core.MatOfRect))([Mat](http://docs.google.com/org/opencv/core/Mat.html) image, java.util.List<[MatOfPoint](http://docs.google.com/org/opencv/core/MatOfPoint.html)> msers, [MatOfRect](http://docs.google.com/org/opencv/core/MatOfRect.html) bboxes) Detect %MSER regions |
| java.lang.String | [**getDefaultName**](http://docs.google.com/org/opencv/features2d/MSER.html#getDefaultName())() Returns the algorithm string identifier. |
| int | [**getDelta**](http://docs.google.com/org/opencv/features2d/MSER.html#getDelta())() |
| int | [**getMaxArea**](http://docs.google.com/org/opencv/features2d/MSER.html#getMaxArea())() |
| int | [**getMinArea**](http://docs.google.com/org/opencv/features2d/MSER.html#getMinArea())() |
| boolean | [**getPass2Only**](http://docs.google.com/org/opencv/features2d/MSER.html#getPass2Only())() |
| void | [**setDelta**](http://docs.google.com/org/opencv/features2d/MSER.html#setDelta(int))(int delta) |
| void | [**setMaxArea**](http://docs.google.com/org/opencv/features2d/MSER.html#setMaxArea(int))(int maxArea) |
| void | [**setMinArea**](http://docs.google.com/org/opencv/features2d/MSER.html#setMinArea(int))(int minArea) |
| void | [**setPass2Only**](http://docs.google.com/org/opencv/features2d/MSER.html#setPass2Only(boolean))(boolean f) |

### Methods inherited from class org.opencv.features2d.[**Feature2D**](http://docs.google.com/org/opencv/features2d/Feature2D.html)[compute](http://docs.google.com/org/opencv/features2d/Feature2D.html#compute(java.util.List,%20java.util.List,%20java.util.List)), [compute](http://docs.google.com/org/opencv/features2d/Feature2D.html#compute(org.opencv.core.Mat,%20org.opencv.core.MatOfKeyPoint,%20org.opencv.core.Mat)), [defaultNorm](http://docs.google.com/org/opencv/features2d/Feature2D.html#defaultNorm()), [descriptorSize](http://docs.google.com/org/opencv/features2d/Feature2D.html#descriptorSize()), [descriptorType](http://docs.google.com/org/opencv/features2d/Feature2D.html#descriptorType()), [detect](http://docs.google.com/org/opencv/features2d/Feature2D.html#detect(java.util.List,%20java.util.List)), [detect](http://docs.google.com/org/opencv/features2d/Feature2D.html#detect(java.util.List,%20java.util.List,%20java.util.List)), [detect](http://docs.google.com/org/opencv/features2d/Feature2D.html#detect(org.opencv.core.Mat,%20org.opencv.core.MatOfKeyPoint)), [detect](http://docs.google.com/org/opencv/features2d/Feature2D.html#detect(org.opencv.core.Mat,%20org.opencv.core.MatOfKeyPoint,%20org.opencv.core.Mat)), [detectAndCompute](http://docs.google.com/org/opencv/features2d/Feature2D.html#detectAndCompute(org.opencv.core.Mat,%20org.opencv.core.Mat,%20org.opencv.core.MatOfKeyPoint,%20org.opencv.core.Mat)), [detectAndCompute](http://docs.google.com/org/opencv/features2d/Feature2D.html#detectAndCompute(org.opencv.core.Mat,%20org.opencv.core.Mat,%20org.opencv.core.MatOfKeyPoint,%20org.opencv.core.Mat,%20boolean)), [empty](http://docs.google.com/org/opencv/features2d/Feature2D.html#empty()), [read](http://docs.google.com/org/opencv/features2d/Feature2D.html#read(java.lang.String)), [write](http://docs.google.com/org/opencv/features2d/Feature2D.html#write(java.lang.String))

### Methods inherited from class org.opencv.core.[**Algorithm**](http://docs.google.com/org/opencv/core/Algorithm.html)[clear](http://docs.google.com/org/opencv/core/Algorithm.html#clear()), [getNativeObjAddr](http://docs.google.com/org/opencv/core/Algorithm.html#getNativeObjAddr()), [save](http://docs.google.com/org/opencv/core/Algorithm.html#save(java.lang.String))

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

### Method Detail

#### \_\_fromPtr\_\_ public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) \_\_fromPtr\_\_(long addr)

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create() Full constructor for %MSER detectorReturns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\) Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children\_min\_diversity - for color image, trace back to cut off mser with diversity less than min\_diversity Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children\_min\_diversity - for color image, trace back to cut off mser with diversity less than min\_diversity\_max\_evolution - for color image, the evolution steps Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children\_min\_diversity - for color image, trace back to cut off mser with diversity less than min\_diversity\_max\_evolution - for color image, the evolution steps\_area\_threshold - for color image, the area threshold to cause re-initialize Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold, double \_min\_margin) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children\_min\_diversity - for color image, trace back to cut off mser with diversity less than min\_diversity\_max\_evolution - for color image, the evolution steps\_area\_threshold - for color image, the area threshold to cause re-initialize\_min\_margin - for color image, ignore too small margin Returns:automatically generated

#### create public static [MSER](http://docs.google.com/org/opencv/features2d/MSER.html) create(int \_delta, int \_min\_area, int \_max\_area, double \_max\_variation, double \_min\_diversity, int \_max\_evolution, double \_area\_threshold, double \_min\_margin, int \_edge\_blur\_size) Full constructor for %MSER detectorParameters:\_delta - it compares \((size\_{i}-size\_{i-delta})/size\_{i-delta}\)\_min\_area - prune the area which smaller than minArea\_max\_area - prune the area which bigger than maxArea\_max\_variation - prune the area have similar size to its children\_min\_diversity - for color image, trace back to cut off mser with diversity less than min\_diversity\_max\_evolution - for color image, the evolution steps\_area\_threshold - for color image, the area threshold to cause re-initialize\_min\_margin - for color image, ignore too small margin\_edge\_blur\_size - for color image, the aperture size for edge blur Returns:automatically generated

#### detectRegions public void detectRegions([Mat](http://docs.google.com/org/opencv/core/Mat.html) image, java.util.List<[MatOfPoint](http://docs.google.com/org/opencv/core/MatOfPoint.html)> msers, [MatOfRect](http://docs.google.com/org/opencv/core/MatOfRect.html) bboxes) Detect %MSER regionsParameters:image - input image (8UC1, 8UC3 or 8UC4, must be greater or equal than 3x3)msers - resulting list of point setsbboxes - resulting bounding boxes

#### getDefaultName public java.lang.String getDefaultName() **Description copied from class:**[**Algorithm**](http://docs.google.com/org/opencv/core/Algorithm.html#getDefaultName()) Returns the algorithm string identifier. This string is used as top level xml/yml node tag when the object is saved to a file or string.**Overrides:** [getDefaultName](http://docs.google.com/org/opencv/features2d/Feature2D.html#getDefaultName()) in class [Feature2D](http://docs.google.com/org/opencv/features2d/Feature2D.html) Returns:automatically generated

#### getDelta public int getDelta()

#### getMaxArea public int getMaxArea()

#### getMinArea public int getMinArea()

#### getPass2Only public boolean getPass2Only()

#### setDelta public void setDelta(int delta)

#### setMaxArea public void setMaxArea(int maxArea)

#### setMinArea public void setMinArea(int minArea)

#### setPass2Only public void setPass2Only(boolean f)

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