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org.opencv.features2d

## Class SIFT

* 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.SIFT
* public class SIFT  
  extends [Feature2D](http://docs.google.com/org/opencv/features2d/Feature2D.html)  
  Class for extracting keypoints and computing descriptors using the Scale Invariant Feature Transform (SIFT) algorithm by D. Lowe CITE: Lowe04 .

### Method SummaryMethods

| Modifier and Type | Method and Description |
| --- | --- |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**\_\_fromPtr\_\_**](http://docs.google.com/org/opencv/features2d/SIFT.html#__fromPtr__(long))(long addr) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create())() (measured in SIFT algorithm as the local contrast) number of octaves is computed automatically from the image resolution. |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int))(int nfeatures) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int,%20int))(int nfeatures, int nOctaveLayers) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int,%20int,%20double))(int nfeatures, int nOctaveLayers, double contrastThreshold) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int,%20int,%20double,%20double))(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int,%20int,%20double,%20double,%20double))(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold, double sigma) |
| static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) | [**create**](http://docs.google.com/org/opencv/features2d/SIFT.html#create(int,%20int,%20double,%20double,%20double,%20int))(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold, double sigma, int descriptorType) Create SIFT with specified descriptorType. |
| java.lang.String | [**getDefaultName**](http://docs.google.com/org/opencv/features2d/SIFT.html#getDefaultName())() Returns the algorithm string identifier. |

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

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create() (measured in SIFT algorithm as the local contrast) number of octaves is computed automatically from the image resolution. (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09. is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained). is captured with a weak camera with soft lenses, you might want to reduce the number.Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures)Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast) number of octaves is computed automatically from the image resolution. (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09. is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained). is captured with a weak camera with soft lenses, you might want to reduce the number. Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures, int nOctaveLayers)Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast)nOctaveLayers - The number of layers in each octave. 3 is the value used in D. Lowe paper. The number of octaves is computed automatically from the image resolution. (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09. is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained). is captured with a weak camera with soft lenses, you might want to reduce the number. Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures, int nOctaveLayers, double contrastThreshold)Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast)nOctaveLayers - The number of layers in each octave. 3 is the value used in D. Lowe paper. The number of octaves is computed automatically from the image resolution.contrastThreshold - The contrast threshold used to filter out weak features in semi-uniform (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09. is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained). is captured with a weak camera with soft lenses, you might want to reduce the number. Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold)Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast)nOctaveLayers - The number of layers in each octave. 3 is the value used in D. Lowe paper. The number of octaves is computed automatically from the image resolution.contrastThreshold - The contrast threshold used to filter out weak features in semi-uniform (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09.edgeThreshold - The threshold used to filter out edge-like features. Note that the its meaning is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained). is captured with a weak camera with soft lenses, you might want to reduce the number. Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold, double sigma)Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast)nOctaveLayers - The number of layers in each octave. 3 is the value used in D. Lowe paper. The number of octaves is computed automatically from the image resolution.contrastThreshold - The contrast threshold used to filter out weak features in semi-uniform (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09.edgeThreshold - The threshold used to filter out edge-like features. Note that the its meaning is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained).sigma - The sigma of the Gaussian applied to the input image at the octave \#0. If your image is captured with a weak camera with soft lenses, you might want to reduce the number. Returns:automatically generated

#### create public static [SIFT](http://docs.google.com/org/opencv/features2d/SIFT.html) create(int nfeatures, int nOctaveLayers, double contrastThreshold, double edgeThreshold, double sigma, int descriptorType) Create SIFT with specified descriptorType.Parameters:nfeatures - The number of best features to retain. The features are ranked by their scores (measured in SIFT algorithm as the local contrast)nOctaveLayers - The number of layers in each octave. 3 is the value used in D. Lowe paper. The number of octaves is computed automatically from the image resolution.contrastThreshold - The contrast threshold used to filter out weak features in semi-uniform (low-contrast) regions. The larger the threshold, the less features are produced by the detector. **Note:** The contrast threshold will be divided by nOctaveLayers when the filtering is applied. When nOctaveLayers is set to default and if you want to use the value used in D. Lowe paper, 0.03, set this argument to 0.09.edgeThreshold - The threshold used to filter out edge-like features. Note that the its meaning is different from the contrastThreshold, i.e. the larger the edgeThreshold, the less features are filtered out (more features are retained).sigma - The sigma of the Gaussian applied to the input image at the octave \#0. If your image is captured with a weak camera with soft lenses, you might want to reduce the number.descriptorType - The type of descriptors. Only CV\_32F and CV\_8U are supported. Returns:automatically generated

#### 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

* [Overview](http://docs.google.com/overview-summary.html)
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* Class
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