multiscale::analysis ::Detector # image # outputFilepath # debugMode # outputImage # detectMethodCalled # detectorSpecificFieldsInitialised + Detector() + ~Detector() + detect() + outputResults() # initialise() # initialiseDetectorSpecific FieldsIfNotSet() # initialiseDetectorSpecific Fields() # initialiseImageDependent Fields() # isValidInputImage() # detect() # detectInDebugMode() # detectInReleaseMode() # displayResultsInWindow() # outputResultsToFile() # outputResultsToImage() # storeOutputImageOnDisk() # outputResultsToCsvFile() # outputResultsToCsvFile() # processImageAndDetect() # clearPreviousDetectionResults() # createTrackbars() # createTrackbarsWindow() # createDetectorSpecificTrackbars() # processPressedKeyRequest() # displayImage() # printOutputErrorMessage() multiscale::analysis ::RegionDetector - alpha beta - blurKernelSize morphologicalCloseIterations epsilon - regionAreaThresh thresholdValue - origin - regions multiscale::analysis + RegionDetector() ::ClusterDetector + ~RegionDetector() + getAlpha() # clusterednessIndex + getBeta() # avgPileUpDegree + getBlurKernelSize() # entityPileupDegree + getEpsilon() + getMorphologicalCloseIterations() # minPoints + getOriginXCoordinate() + getOriginYCoordinate() + ClusterDetector() + getRegionAreaThresh() + ~ClusterDetector() + getThresholdValue() + getRegions() + getMinPoints() + setAlpha() + getClusters() + setBeta() + setBlurKernelSize() + setMinPoints() + setEpsilon() + setMorphologicalCloseIterations() # initialiseDetectorSpecific + setOriginXCoordinate() # createDetectorSpecificTrackbars() + setOriginYCoordinate() # clearPreviousDetectionResults() + setRegionAreaThresh() + setThresholdValue() # processImageAndDetect() # detectEntitiesInImage() - initialiseDetectorSpecific # detectAndAnalyseClusters() Fields() # detectClusters() - initialiseImageDependent # convertEntities() Fields() # convertNonPiledUpEntities() - createDetectorSpecificTrackbars() # convertPiledUpEntities() processImageAndDetect() # addEntitiesToClusters() - changeContrastAndBrightness() # analyseClusters() smoothImage() - morphologicalClose() # computeClusterednessIndex() # computeAveragePileUpDegree() thresholdImage() # outputResultsToCsvFile() - findRegions() # convertEpsValue() - findContoursInImage() # getValidMinPointsValue() - createRegionFromPolygon() - isValidRegion() - regionDensity() - regionAngle() - regionAngle() - minAreaRectCentre() findGoodPointsForAngle() findGoodIntersectionPoints() - clearPreviousDetectionResults() - outputResultsToCsvFile() - outputResultsToImage() - convertAlpha() - convertBeta()

- height - width

- thresholdedImage

multiscale::analysis

eps

clusters

+ getEps()

+ setEps()

Fields()

- + SimulationClusterDetector()
- entityWidth
- entityHeight

::SimulationClusterDetector

- + ~SimulationClusterDetector()
- initialiseImageDependent
- Fields() initialiseThresholdedImage()
- detectEntitiesInImage()
- isEntityAtPosition() getEntityCentrePoint()
- getEntityContourPoints()
- computePileUpDegreeAtPosition()
- outputResultsToImage() - outputClusterToImage()
- outputClusterTriangularShape() - outputClusterRectangular
- Shape()
- outputClusterShape()

outputClusterCircularShape()