

A Syntactic Approach to Scale-Space-Based Corner Description

- 1: "Planar curves are described by information about corners integrated over various levels of"
- 2: "The last appearance (moving from the bottom to the top) of a corner in the pyramid gives information about the scope of the curvature...."
- 3: "A multiresolution description of planar curves using corners and the curve pyramid has been presented."

A graph-based approach for multiscale shape analysis

- 1: „This paper presents two shape descriptors, multiscale...“
- 2: „The location and the influence are of the...“
- 3: „This paper has presented two effective shape descriptors...“

Application of planar shape comparison to object retrieval database

- 1: „A shape similarity measure useful for shape-based...“
- 2: “When comparing shapes in image databases we have to deal not”
- 3: “In computer vision there is a long history of work on shape representation”

Automatic Estimation and Removal of Noise from a Single Image

- 1: „The Image is partitioned into piecewise smooth...“
- ((2: „Image denoising algorithms often assume an...“))

Biometrics: A Grand Challenge

- 1: “A Practical system does not make...“
- 2: „Reliable person identification is an important....“

Collaboration between statistical and structural approaches for old handwritten character recognition

- 1: „Statistical methods are classical in pattern recognition...“
- 2: „From a general point of view, the structural classification...“

Color image segmentation based on homogram thresholding and region merging

- 1: „In this paper, a color image segmentation...“
- 2: „In most of the existing color image segmentation approaches....“

Compressed vertex chain codes

- 1: This paper introduces three new vertex chain codes. Firstly, considering that the vertex
- 2: The main reason for the popularity of ... is its memory compactness. ... can be viewed as a connected sequence of straight-line

Computing the shape of planer points set

- 1: „In this article, we introduce...“
- 2: „Edelsbrunner et al. [10]...“

Corner detection and curve segmentation by multiresolution chain-code linking

- 1: „A curve pyramid and an image pyramid are built in a similar way.“
- 2: „In this paper, a new method has been introduced for characterisation of “
- 3: „In this paper, we propose a new method to characterise a curve by “
- (4: The combination of these three components- stabilisation process, corrections of crossed links and selective propagations)

Curve parameterization by Moments

- 1: “We present a method for deriving a parametric description of a conic section (quadratic curve) in “
- 2: „Major differences exist between the moment approach to curve parameterization and “
- 3: „Interest in computing parametric descriptions of lines and conics in images has been rekindled by“

Descriptor Learning for Efficient Retrieval

- 1: “Many visual search and matching systems represent images using sparse set of”,
- 2: “Whilst being ostensibly similar to textual words”
- 3: To achieve this, we learn a non-linear transformation model by minimizing a novel

Dissimilarity between two skeletal trees in a context

- 1: „Typically, the geometric similarity between two shapes is a measure of how well“
- 2: „Skeletal trees are commonly used in order to express geometric properties of the shape.“
- 3: „We test our constructions on a shape retrieval problem by performing two “

Document image analysis: A primer

- 1: „Segmentation occurs on two levels. On the first level, if the document contains both text and graphics, “
- 2: „Data in a paper document are usually captured by optical scanning...“
- 3: „For gray-scale images with information that is inherently binary such...“

Efficient region segmentation on compressed gray images using quadtree and shading representation

- 1: „Suppose the input gray image with size NxN has been compressed into the “
- 2: „Before presenting our proposed region-segmentation...“

Extended Hough transform for linear feature detection

- 1: “Improving the accuracy of line segment detection reduces the complexity of subsequent”,
- 2: “We detected short line segments with both approaches and compared their results”

Face Detection in Color Images

- 1: „Based on novel lighting compensation technique and a...”
- 2: „The color of mouth region contains stronger red...”

Fast algorithm for generation of moment invariants

- 1: „Moment invariants are important shape descriptors in computer vision...”

Fast template matching algorithm for contour images based on its chain coded description applied for human identification

- 1: „As mentioned in the introduction...”
- 2: „In our face authentication system, the isodensity...”

Feature selection based on the training set manipulation

- 1: „Feature weighting procedures rank features...”
- 2: „... The method exploits the information conveyed by the evolution of the training samples ”

Fingerprint Image Reconstruction from Standard Templates

- 1: A minutiae-based template is a very compact representation of a fingerprint
- 2: The global characteristics of the ridge pattern may be described by the orientation image

Flycatcher: Fusion and Gaze with Hierarchical Image Segmentation for Robust Object Detection

- 1: “The second stage of the algorithm performs graph contraction of the previously found”,
- 2: “The hierarchical segmentations algorithm ... produces from an image and seed” à Original ware es “Kropatsch and Haxhimusa's hierarchical segmentation algorithm[12] produces from an image and a seed point P a set of hierarchically related regions” und bezieht sich auf das Paper “Grouping and Segmentation in a Hierarchy of Graphs” von Kropatsch und Haxhimusa
- 3: „In assistive systems designed to aid...”

From image analysis to computer vision: Motives...

- 1: "Any linear property of an image is a weighted sum of its pixel values..."
- 2: "Image parts of known shapes can also be detected by template matching",
- 3: "Unfortunately, most vision problem, even those that were first tackled in the 1950's, "

Generic Model Abstraction from Examples

- 1: „The recognition community has typically avoided bridging the...”
- 2: „It is important to note that in bringing the model closer to the image...”

Hierarchic Voronoi skeletons

- 1: „Characteristically, many attempts to implement Blum's...”
- 2: „Robust and time-efficient skeletonization of a (planar) shape,...”

Image Transformations and Blurring

- 1: “Since camera blur the incoming light during measurement, different images of the same surface do not contain the same information about that surface...”
- 2: „This paper introduced the formalism of the ideal image, consisting of the unblurred incoming light, and the real image, consisting of the blurred measured image.”

Increasing the discrimination power of the co-occurrence matrix-based features

- 1: „Haralicks coefficients are usually calculated from the average co-occurrence matrix “
- 2: „Nonetheless, the fact that the approach was proposed more than 30 years ago, ”

Laplacian Operator-Based Edge Detectors

- 1: “ operator [8] is a second derivative operator that is...”
- 2: “The ... operator-based edge detectors localize”
- 3: “This edge-matching filter should also make the value of the output noise variance ”

Measuring the orientability of Shapes

- 1: An orientability measure determines how orientable a shape is...
- 2: Elongation consider the covariance matrix constructed from the second order central

Object detection by global contour shape

- 1: „However, local appearance is clearly not the only cue to object detection, “
- 2: „We present a method for object class detection in images based on global shape.”

Old and new straight-line detectors: Description and comparison

- 1: “...is important in several fields such as robotics, remote sensing, and imagery. The objective of this paper is to present several methods,.. We begin by reviewing the standard Hough (RHT),...”
- 2: “ An image I is described by the Cartesian coordinates of its points. We denote by H the parameter space...”

Parametric estimation of affine deformations of planer shapes

- 1: „We consider the estimation of affine transformations...”
- 2: „Several techniques have been proposed to address the affine...”

Perceptually relevant and piecewise linear matching of silhouettes

1: „Global or statistical approaches, such as...”

Review of shape representation and description techniques

- 1: „More and more images have been generated...”
- 2: „Syntactic analysis is inspired by the phenomenon that composition of a natural scene is ”
- 3: „Zhang and Lu have tested geometric moment invariants...”
- 4: „The extraction of convex hull can be a...”
- 5: „For example, in case of thick hand-drawn...”
- 6: “We have been developing a Theory for the generic representation”

Rigid Shape Matching by Segmentation Averaging

- 1: “We use segmentations to match images by shape. The new matching technique does not require point-to-point edge correspondence and is robust to small shape variations and spatial shifts...”
- 2: „The shape of an object (as conveyed by edge curves) is among its most distinctive features. Though a category of objects can vary greatly in appearance as the ...”

Robust distributed multi-view video compression for wireless camera networks

- 1: “We propose a novel method of exploiting inter-view correlation”
- 2: “PRISM multi-camera”
- 3: “However, we have to be careful in taking care of the dependencies in decoding.”

Robust Image Segmentation Using Resampling and Shape Constraints

1: „Automated segmentation of images...”

Robust threshold estimation for images with unimodal histograms

- 1: “This article introduces a method to determine in a robust manner the threshold in highly noisy gradient images. To enhance the robustness, ...”
- 2: “To achieve these objectives, a novel minimization criterion is proposed. It consists of the minimization of the error between the descending slope of the histogram and its piecewise linear regression....”

Seam Carving for Content-Aware Image Resizing

- 1: „This operator can be used for a variety of image manipulation...”
- 2: Effective resizing of images should not only use geometric constraints”
- 3: “Formally, let I be an $N \times M$ image and define a vertical”

Shock Graphs and Shape Matching

- 1: „We have been developing a theory for the generic representation of 2D shape”
- 2: “Upon entering a room, one first notices the presence of a particular object”

Sketched Symbol Recognition using Zemike Moments

- 1: „In this paper, we present an on-line...”
- 2: „Zemike Moments are not invariant...”

Statistical Pattern Recognition: A Review

- 1: „The design of a pattern recognition system essentially”
- 2: “Invariant pattern recognition is desirable in many applications”

The JPEG 2000 Still Image Compression Standard

- 1: “The ... standard has been in use for almost a decade now.”
- 2: “Lossless and lossy ... (-> compression): It is desired to provide ... (-> lossless) compression naturally in the course of progressive decoding”

Three-dimensional Euclidean distance transformation and its application to shortest path planning

- 1: „In this paper, we present a novel method to obtain...”
- 2: „Assume that an arbitrarily object...”

Thresholding based on variance and intensity contrast

- 1: A new ... criterion is formulated for segmenting small objects by
- 2: The Otsu method [10] uses within-class variance for image segmentation and works well

Transactions on Pattern Analysis and Machine Intelligence

1: “Planar curves are described by information about”

Unsupervised Object Segmentation with a Hybrid Graph Model (HGM)

- 1: “In a ..., the symmetric relationship is represented by undirected edges, while the asymmetric relationship is represented by directed edges.”
- 2: “The vertices of a ... represent the samples, e.g., superpixels of an image. The vertices are connected by directed edges and/or undirected ones.”

Watershed segmentation using prior shape and appearance knowledge

- 1: “... is a common technique for image segmentation. However, its use for automatic medical image segmentation has been limited particularly due to over-segmentation and sensitivity to noise. ”
- 2: “... has increasingly been recognized as a powerful segmentation”