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# Multimedia Information Analysis and Retrieval

IAPR International Workshop, MINAR'98  
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## Preface

The advent of Internet coinciding with the general use of digital sensors have given the field of computer vision and pattern recognition a boost in its application. Whilst the digital camera captures images for a variety of professional and consumer markets, the Internet spreads the use of pictures in digital form over the world. In short, the Internet has turned visual rather than textual. With the new tools come new usage, new audiences and, hence, new challenges for computer vision and recognition. Such challenges come in three different forms: the much enlarged dataset, new application domains, and the needs to cater to naive users.

Pictorial databases of 500 000 to over 1 000 000 images are quite common in Internet search. This imposes great demands on computational efficiency and issues relating to indexing compressed pictures and videos become relevant. Moreover, the requirement of robustness against varying circumstances in recording and interpretation in image browsing via the Internet is also larger than previously seen.

Before the Internet age, typical application domains of picture analysis were usually complicated tasks in narrow domains (e.g. medical image analysis, bank cheque verification, pharmaceutical product classification) or quick tasks in simplified environments (e.g. industrial inspection, printed character recognition). In the Internet age, the domain shifts to more general pictures from consumer video and large archives, where we have very little control over the imaging conditions, and where prior domain knowledge is not easily applied to simplify the search and retrieval process. This poses interesting new problems each time when conditions of illumination and query purpose alter. A general framework which addresses all these problems is not yet in sight.

Apart from new domains, the Internet and digital sensor revolution also generates new questions for vision research. Searching a database or the Internet requires similarity measures over very large numbers of pictures. Also, interactive browsing of an unknown query where the emphasis is on perceptual similarity is a relative unknown topic in computer vision.

Sensing the importance and the needs of new techniques for browsing large image and multimedia database, the International Association of Pattern Recognition (IAPR) established a new technical committee on Multimedia Systems (TC12) in 1995. This technical committee directs its attention to the vast number of scientific questions related to multimedia content analysis and retrieval.

In addition, TC12 also initiated the IAPR International Workshop on Multimedia Information Analysis and Retrieval (MINAR'98) which aims to bring together researchers who are working in the field of interests of the TC.

This volume is devoted to major research issues in content-based image and video search, and contains papers presented at MINAR'98 held in Hong Kong. Among these papers are topics on the exploitation of invariant properties, colour or geometric, of images for robust image and video retrieval, fusion of pictorial with other media such as text, image indexing and retrieval in compressed domain, pictorial query languages,

video segmentation by content, as well as efficient storage organisation for multimedia data.

We would like to thank the following who served on the programme committee of MINAR'98: S.-K. Chang, A. del-Bimbo, W. Grosky, R. Kasturi, T. Kato, C. Leung, S.D. Ma, D. Petkovic, H. Samet, S. Smoliar, R. Srihara, H. Tagare and J.K. Wu. We also thank Ramesh Jain who gave the keynote talk on presence technology.

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# Contents

## Invited Talk

- Presence Technology: Accessing Live Multimedia Information Systems  
*Ramesh Jain* 1

## Image Retrieval

- Content-Based Image Database Retrieval Using Variances of Gray Level  
Spatial Dependencies  
*Selim Aksoy and Robert M. Haralick* 3
- Content-Based Access of VRML Libraries  
*Eric Paquet and Marc Rioux* 20
- Web-WISE: Compressed Image Retrieval over the Web  
*Gang Wei, Dongge Li and I.K. Sethi* 33

## Video Retrieval

- Embodying Semiotic Cues in Video Retrieval  
*J. Assfalg, C. Colombo, A. Del Bimbo and P. Pala* 47
- Supporting Video Applications Through 4DIS Temporal Framework  
*Rynson W.H. Lau, Hong Va Leong, Qing Li and Antonio Si* 60
- Video Sequence Similarity Matching  
*D.A. Adjeroh, I. King and M.C. Lee* 80

## Invited Talk

- Image Retrieval by Multi-scale Illumination Invariant Indexing  
*Theo Gevers and Arnold W.M. Smeulders* 96

## Image Analysis

- Finding Pictures in Context  
*Rohini K. Srihari and Zhongfei Zhang* 109

Image Enhancement and Improvement of Both Color and Brightness Contrast Based on Lateral Inhibition Method <i>Takashi Sakamoto and Toshikazu Kato</i>	124
--	-----

An Area-Based Shape Representation for Affine Invariant Content-Based Retrieval <i>Horace H.S. Ip, Dinggang Shen, Wai-Him Wong and Ken C.K. Law</i>	132
--	-----

## **Video Segmentation and Spatial Query**

A Spatial Query Language for Multiple Data Sources Based on s-Operator Sequences <i>S.-K. Chang and Erland Jungert</i>	143
---	-----

Video Segmentation Using Color Difference Histogram <i>C.F. Lam and M.C. Lee</i>	159
---	-----

A New Scene Breakpoint Detection Algorithm Using Slice of Video Stream <i>Kong Weixin, Ren Yao and Lu Hanqing</i>	175
--	-----

## **Indexing and Storage**

A Low Latency Hierarchical Storage Organization for Multimedia Data Retrieval <i>Philip K.C. Tse and Clement H.C. Leung</i>	181
--	-----

Exploiting Image Indexing Techniques in DCT Domain <i>C.W. Ngo, T.C. Pong and R.T. Chin</i>	195
--	-----

Content-Based Image Indexing and Retrieval in an Image Database for Technical Domains <i>Petra Perner</i>	207
--	-----

## **Posters**

The PRIME Information Retrieval System Applied on a Medical Corpus <i>C. Berrut, P. Mulhem, F. Fourel and M. Mechmour</i>	224
--	-----

Envelope Parameter Calculation of Similarity Indexing Structure <i>Xuesheng Bai, Guangyou Xu and Yuanchun Shi</i>	242
--	-----

Intra-Block Max-Min Algorithm for Embedding Robust Digital Watermark into Images <i>F.Y. Duan, I. King, L.W. Chan and L. Xu</i>	255
--	-----