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Large Multimedia Database

ORGANIZER/LECTURER
Ramesh Jain
University of California, San Diego

Multimedia Databses

Ramesh Jain
Electrical and Computer Engineering Department
University of California at San Diego
La Jolla, CA 92093-0407

Abstract

The virtue of a database system lies in its ability to efficiently retrieve the correct piece of information given a specific user-query Alphanumeric keys are used for organizing and retrieving appropriate piece of information in databases What would happen if the basic data format is not alphanumeric but is an image, a video sequence, or some other signal? Images and other non-alphanumeric objects can neither be decomposed into well-defined records, nor can they be manipulated based upon any universally invariant criterion By what principles can the images be organized? How are image-based queries specified? How can the concept of index keys be extended to image-based (as opposed to text based) entities? Similar issues arise if the information is in video, speech or other sounds, or any other signal Non-alphanumeric information is omni present in modern society Information systems to view and observe hetereogeneous information are needed in many applications, but have started receing attention only recently

In this tutorial, we will first address the basic problems in the area of content-adressable image databases, and then briefly review the state of the art in this emerging field Our goal is to present the state of art in this new emerging field We will then discuss the approach taken in the InfoScope project and give detiled examples from a video database system and an image database system

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Biographical Sketch
Ramesh Jain

Ramesh Jain is currently a Professor of Electrical and Computer Engineering at University of California at San Diego Before joining UCSD, he was a Professor of Electrical Engineering and Computer Science, and the founding Director of the Artificial Intelligence Laboratory at the University of Michigan, Ann Arbor, MI 48109 He has also been affiliated with Stanford University, IBM Almaden Research Labs, General Motors Research Labs, Wayne State University, University of Texas at Austin, University of Hamburg, West Germany, and Indian Institute of Technology, Kharagpur, India His current research interests are in multimedia information systems, image databases, machine vision, and intelligent systems He has published numerous research papers addressing several aspects of the above areas

Ramesh is a Fellow of IEEE, American Association for Artificial Intelligence, and Society of Photo-optical Instruementation ENgineers He is a member of ACM, Pattern Recognition Society, Cognitive Science Society, Optical Society of America, and Society of Manufacturing Engineers He has been involved in organization of several professional conferences and work shops He is the founding Editor in Chief of IEEE Multimedia magazine and currently is on the editorial boards of *Machine Vision and Applications, Computer Vision Graphics and Image Processing, Journal of Optical Society of America, the Bulletin of Approximate Reasoning, and Image and Vision Computing* He received his Ph D from IIT, Kharagpur in 1975 and his B E from Nagpur University in 1969