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Friday, February 6, 2009

2:00 pm, Room 403 IS Building

School of Information Sciences, University of Pittsburgh

Alexander Hauptmann

Senior Systems Scientist, School of Computer Science, Carnegie Mellon University

"Video Retrieval based on Semantic Concepts"

This talk will review traditional approaches to video retrieval based on text search or appearance similarity. After discussing the shortcomings of these, I will introduce the notion of video retrieval using semantic concepts. These concepts constitute a linguistic description of an observable entity, e.g. face, car, airplane landing, people walking, etc. Recent research has shown in simulations that using 5,000 or more of these visual semantic concepts could boost the accuracy of video retrieval levels comparable to text search. I will discuss approaches to reaching that scale and level of performance. The talk will touch on issues in the definitions of concepts, obtaining annotations, learning to detect these concepts automatically, classifying a video archive and, finally, using concepts in search, either interactively or automatically.

Bio: Alex Hauptmann is a Senior Systems Scientist in the CMU Computer Science Department and also a faculty member with CMU's Language Technologies Institute. He received his B.A. and M.A. in Psychology from Johns Hopkins University, studied Computer Science at Technische Universität Berlin from 1982-1984, and received his Ph.D. in Computer Science from CMU in 1991. His research interests have led him to pursue and combine several different areas: man-machine communication, natural language processing, speech understanding and synthesis, machine learning. He worked on speech and machine translation at CMU from 1984-94, when he joined the Informedia project where he developed the News-on-Demand application.

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