



Spring 2008 CIS Colloquium Series

Visual information Analysis and Its Application

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Abstract

Visual information analysis is of fundamental importance in computer vision and has many applications. In this talk I will introduce my work in this area in four parts. First, I will talk about a deformation invariant framework for image matching and an articulation insensitive representation for shape matching. The two methods share a common idea of using geodesic distances to achieve robustness. Second, I will present two applications of visual information analysis. One work uses the robust shape matching algorithm for foliage image retrieval. The other work applies visual attention analysis for effective image browsing. In the third part, I will describe two algorithms for visual recognition, one for category classification and the other for face verification. Both algorithms combine visual representation and support vector machines and have achieved promising results. In the last part, I will present an effective and efficient histogram comparison algorithm, EMD_L1, which improves the speed by one order from the original earth mover's distance. Excellent accuracy and speed performances are observed in the test on visual features.

Bio

Haibin Ling received the BS degree in mathematics and the MS degree in computer science from Peking University, China, in 1997 and 2000, respectively, and the PhD degree from the University of Maryland, College Park, in computer science in 2006. From 2000 to 2001, he was an assistant researcher in the Multi-Model User Interface Group at Microsoft Research Asia. From 2006 to 2007, he worked as a postdoctoral scientist at the University of California Los Angeles. After that, he joined Siemens Corporate Research and is now a research scientist in the Integrated Data Systems Department. His research interests include computer vision, medical image analysis, human computer interaction, and machine learning. He received the Best Student Paper Award at the ACM Symposium on User Interface Software and Technology (UIST) in 2003.

Location: 4th Floor Conference Room (Wachman 447)

Time: 11am-Noon, Friday, February 8, 2008

Refreshments will be served!