Society for Undergraduate Mathematics

Presents:

Video Mining
by Longin Jan Latecki

Data mining can be defined as making explicit the implicit information contained in the data. In classical data mining systems information retrieval is based on processing of textual data, and the retrieved information is presented in form of text and numbers to the users. In video mining systems information retrieval is based on processing of visual information, and it is extremely useful to present the retrieved information in visual form (images and video clips) to the users. Some data mining techniques like clustering can be also applied in video mining but it is necessary to develop new techniques to process the visual context of the data. The main source of such techniques is algorithms developed in computer vision. The applications of video mining include:

- retrieval of specific video clips stored in video archives,

- retrieval of suspicious activities in prerecorded surveillance videos,

- monitoring of surveillance cameras, e.g. theft protection, fire protection, care of small children,

- intelligent fast-forward and video browsing techniques,

- video search engines for web browsers.

In all video mining applications a huge amount of data must be efficiently stored. Once stored, there must exist efficient retrieval algorithms. It may also be necessary to retrieve different kinds of data stored in possibly different formats. Some of the applications will require real-time response. Monitoring and mining of the content of the already huge, rapidly growing mass of video data requires development of novel video understanding techniques.
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In the talk a short general introduction to video mining will be given followed by a detailed presentation of a few specific techniques used in video mining.

Tuesday, April 8, 2003
Wachman Hall, **Room 322**, 4:30pm
Graduate students are especially welcome!
Free Doughnuts and Coffee will be available from 4:15 to 4:30pm.