

ITCS 4121/5121: Information Visualization – General Information

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General Information:

Information visualization is the science that unveils the underlying structure of abstract data sets using visual representations that utilize the powerful processing capabilities of the human visual perceptual system.

Topics of this course include a) popular multidimensional visualization, tree visualization, graph visualization, and time series data visualization techniques; b) visual perception, cognitive issues, evaluation, as well as other theory and design principles behind information visualization; c) basic interaction techniques such as selection and distortion; evaluation; and d) examples of information visualization applications and systems.

Pre- or co-requisites:

ITCS1214 and ITCS1215

Textbooks

There is no required textbook for this course. Rather, many recent papers in the field will be read in the class.

Also, the teacher will circulate a set of useful reference books within the class. Here is a list of the books:

1. Ware, Colin. Information Visualization: Perception for Design (2nd Edition). Morgan-Kaufmann, 2004.
2. Tufte, Edward. The Visual Display of Quantitative Information (2nd Edition). Graphics Press, 2001.
3. Tufte, Edward. Envisioning Information. Graphics Press, 1990.
4. Tufte, Edward. Visual Explanations: Images and Quantities, Evidence and Narrative. Graphics Press, 1997.
5. Spence, Robert. Information Visualization. Addison-Wesley, 2001

Some of the books are available in the library. The students are encouraged to borrow the books from the library.

Useful Resources

*1. Dr. John Stasko's Information Visualization course materials

http://www-static.cc.gatech.edu/classes/AY2006/cs7450_spring/index.html

2. Dr. Daniel Keim's tutorials

http://dbvis.inf.uni-konstanz.de/group/get_tutorials.php?name=keim

3. Dr. George Robertson's tutorials

<http://research.microsoft.com/~ggr/pubs.htm>

4. XmdvTool homepage

<http://davis.wpi.edu/~xmdv/>