Seminar Visual Analytics

Instructor: Carsten Görg  
(goerg@cs.uni-sb.de)

Start: May 29, 5 weekly meetings with 2 presentations per meeting

Procedure:
• read book chapter about visual analytics
• read your assigned paper
• first meeting 2 weeks before your presentation to discuss questions
• second meeting 1 week before your presentation to discuss slides
• write report (about 5 pages), due 2 weeks after the end of the seminar

Visual Analytics

Visual analytics integrates scientific disciplines to improve the division of labor between human and machine.
Visual Analytics

Tight integration of visual and automatic data analysis methods with database technology for a scalable interactive decision support.

Visual Analytics

The sense-making loop for Visual Analytics.
Topics

• Sensemaking & Evaluation
• Entity resolution (data cleaning)
• Design considerations for collaboration
• Analysis of large-scale multivariate data
• Activity analysis
• Network traffic analysis
• Literature analysis
• Animal-human health analysis
• Intelligence analysis (2 topics)
• Analytics for emergency response (2 topics)
• Financial analysis for fraud detection
• Analysis of controversy in encyclopedias

Sensemaking & Evaluation

Beyond Usability: Evaluation Aspects of Visual Analytic Environments, by Scholz

The Sensemaking Process and Leverage Points for Analyst Technology as Identified Through Cognitive Task Analysis, by Pirolli and Card
Entity resolution (data cleaning)

D-Dupe: An Interactive Tool for Entity Resolution in Social Networks, by Bilgic, Licamele, Getoor, and Shneiderman

Design considerations for collaboration

Design considerations for collaborative visual analytics, by Heer and Agrawala
Analysis of large-scale multivariate data

DataMeadow: a visual canvas for analysis of large-scale multivariate data, by Elmqvist, Stasko, and Tsigas

Activity analysis

Activity Analysis Using Spatio-Temporal Trajectory Volumes in Surveillance Applications, by Janoos, Singh, Irfanoglu, and Machiraju
Network traffic analysis

Monitoring Network Traffic with Radial Traffic Analyzer, by Keim, Mansmann, Schneiderwind, and Schreck

Literature analysis

Literature Fingerprinting: A New Method for Visual Literary Analysis, by Keim and Oelke
Animal-human health analysis

LAHVA: Linked Animal-Human Health Visual Analytics,
by Maciejewski, Tyner, Jang, Zheng, Nehme, Ebert, Cleveland, Ouzzani, Grannis, Glickman

Intelligence analysis (1)

Jigsaw: supporting investigative analysis through interactive visualization,
by Stasko, Görg, and Liu
Intelligence analysis (2)
Stories in GeoTime, by Eccles, Kapler, Harper, and Wright

Analytics for emergency response (1)
Mobile analytics for emergency response and training, by Kim, Maciejewski, Ostmo, Delp, Collins, and Ebert
Analytics for emergency response (2)

Visual analytics approach to user-controlled evacuation scheduling, by Andrienko, Andrienko, and Bartling

Financial analysis for fraud detection

Scalable and interactive visual analysis of financial wire transactions for fraud detection, by Chang, Lee, Ghoniem, Kosara, Ribarsky, Yang, Suma, Ziemkiewicz, Kern, and Sudjianto
Analysis of controversy in encyclopedias

Visual analysis of controversy in user-generated encyclopedias, by Brandes and Lerner