Advanced Seminar (Hauptseminar)

Graph and Network Visualization

Networks and Graphs are important data structures in computer science. They can be used to solve a large number of problems, such as finding shortest paths, analyzing social networks, or representing hierarchical structures of organizations. This advanced seminar focuses on the visualization of graphs and networks as well as their interactive analysis. Accordingly, the goals of the seminar are the presentation and discussion of basic and advanced approaches for visualizing these kinds of data structures. Topics will include but are not limited to

Hierarchical visualization

- Layout approaches for hierarchical data
- Interactive visual analysis of hierarchical data

Graph visualization

- Layout of node link diagrams
- Visual analysis of large networks
- Scalable graph visualization

Visual comparison

- Visualization of dynamic tree and network data
- Visual comparison of graphs
- Visual aggregation of graph structures

Prerequisites: Knowledge on information visualization and visual analytics is a plus

Targeted audience: Master Computer Science, Master Informatik, Master Softwaretechnik

Dates: The seminar will take place in the summer semester 2022 at the VISUS building in room 00.012 on Tuesdays at 2 pm starting on April 12th. There will be no preparation meeting, topics will be assigned during the first seminar class.

Contact:
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Ghoniem et al., 2004, A Comparison of the Readability of Graphs Using Node-Link and Matrix-Based Representations