

Masterseminar

Informationsvisualisierung

English Title: Master Seminar Information Visualization

Dozent/in

Prof. Dr. Fabian Beck

Cedric Krause

Angaben

Seminar (Master)

2,00 SWS, 3 ECTS

Time: Tuesday, 16:15-17:45

Room: WE5/01.006 and/or virtual (more information will follow mid of October)

The first meeting will be in the second week of the teaching period, Oct 26.

If interested, please pre-register with fabian.beck@uni-bamberg.de to receive updates.

Voraussetzungen/Organisatorisches

Prior knowledge: none required; basic knowledge in visualization, user-interface design, or human-computer interaction favorable

Typical work load:

- Meetings and talks: ~ 20h
- Literature search and reading: ~ 25h
- Preparation of presentation: ~ 15h
- Written report: ~ 30h

Language: English/German (course language as requested, submissions as individually preferred)

Inhalt

In the seminar, we will explore current trends in a subfield of visualization research. Finding latest research results and identifying hot topics will be our focus. All participants will research individually assigned subtopics that all contribute different facets to the overarching seminar topic. We will study the data analysis tasks supported by these visualization approaches and compare them. We will also discuss and practice methods for literature search, academic writing, and presenting. The seminar sessions will be concluded by presentations of the individual topics and joint discussions. A written seminar report on the individual topics will document the state of research in the area at greater depth.

The learning goals for this course are the following. The participants

- can find latest research results regarding a given research topic in applied computer science,
- understand and practice methods of scientific communication in oral and written form,
- learn to discuss and evaluate state-of-the-art research results, and
- develop a deep understanding of the individual topic, its potential use and application as well as limitations.

In this semester, we will focus on visual sports analytics. Sport activities span from individual fitness to professional athletes and e-sports competitions. In all these areas, diverse and rich data describes the performance of athletes, players, and teams. Visually analyzing such sports data can provide insights into improving one's own skills, inform team tactics, support sports and movement research, or might be just a fun activity for fans and sports enthusiasts. We will study latest visualization approaches and related methods to interactively analyze sports data.

General literature:

- Perin, C., Vuillemot, R., Stolper, C. D., Stasko, J. T., Wood, J., & Carpendale, S. (2018, June). State of the art of sports data visualization. In *Computer Graphics Forum* (Vol. 37, No. 3, pp. 663-686).
- Du, M., & Yuan, X. (2021). A survey of competitive sports data visualization and visual analysis. *Journal of Visualization*, 24(1), 47-67.