

Die Fakultät für Informatik der Universität Wien lädt Sie herzlich ein zum

CS-Colloquium

Visual Computing -- Quo Vadis?

Ao. Univ.-Prof. Dr. Eduard Gröller

Technische Universität Wien

Wann? 9. Oktober 2013, 15:00 Uhr

Wo? Hörsaal 3
Währinger Straße 29
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Abstract

Data Visualization uses computer-supported, interactive, visual representations of (abstract) data to amplify cognition. Visualization is an essential part of Visual Computing which in turn is concerned with the acquisition, representation, processing, analysis, synthesis, and usage of visual information. The talk discusses various challenges in visual computing. In recent years data complexity and variability has increased considerably. This is due to new data sources as well as the availability of uncertainty, error and tolerance information. Visual steering supports decision making in the presence of alternative scenarios. Multiple, related simulation runs are explored through branching operations. To account for uncertain knowledge about the input parameters, visual reasoning employs entire parameter distributions. This can lead to an uncertainty-aware exploration of (continuous) parameter spaces. Multivariate and heterogeneous data call for visual analysis and knowledge-assisted interaction. To cope with intensified scalability issues and distributed processing approaches, advanced strategies are required like comparative visualization, integrated views and inclusion of fuzzy sets in the visualization process. Examples concerning the aforementioned topics will be presented in the talk.

Bio

Eduard Gröller (<http://www.cg.tuwien.ac.at/staff/EduardGroeller.html>) is professor at the Institute of Computer Graphics and Algorithms (ICGA), Vienna University of Technology. In 1993 he received his PhD from the same university. His research interests include computer graphics, visualization, and visual computing. He is heading the visualization group at ICGA. The group performs basic and applied research projects in all areas of visualization (<http://www.cg.tuwien.ac.at/research/vis/>). Dr. Gröller has given lecture series on visualization at various other universities (Tübingen, Graz, Praha, Bahia Blanca, Magdeburg, Bergen). He is a scientific proponent and key researcher of the VRVis research center (<http://www.vrvis.at/>). The center performs applied research in



visualization, rendering, and visual analysis. Dr. Gröller is adjunct professor of computer science at the University of Bergen, Norway (since 2005). He co-authored more than 200 scientific publications and acted as a reviewer for numerous conferences and journals in the field. He also has served and serves on various program and paper committees. Examples include Computers&Graphics, IEEE Transactions on Visualization and Graphics, EuroVis conference, IEEE Visualization conference, Eurographics conference. He has been paper co-chair of Volume Graphics 2005, IEEE Visualization 2005 and 2006, and Eurographics 2006. He has been co-chair of the VisSym1999 symposium, the Eurographics 2011 conference, and the EuroVis 2012 conference. Dr. Gröller has been chief editor of the Journal Computer Graphics Forum (<http://wileyonlinelibrary.com/journal/cgf>) in the period 2008-2011. He became a fellow of the Eurographics association in 2009. Dr. Gröller is head of the working group on computer graphics of the Austrian Computer Society and member of IEEE Computer Society, ACM (Association of Computing Machinery), GI (Gesellschaft für Informatik), OCG (Austrian Computer Society).

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