Keynote Speaker

Changing the World with Visual Analytics

David Ebert
Purdue University

Abstract

To solve the world’s challenges requires not only advancing computer science and big data analytics but requires new analysis and decision-making environments that effectively couple human decision making with advanced, guided analytics in a human-computer collaborative discourse and decision making (HCCD). While many researchers and companies are focusing solely on Big Data Analytics to harness the potential power in available massive, multisource, multivariate, evolving digital data, many of these big data solutions don’t effectively factor the human decision maker into their proposed solution. The HCCD approach builds upon visual analytics and focuses on empowering the decision maker through interactive visual analytic environments where visual cognition, guided discovery, and non-digital human expertise and experience can be combined with state-of-the-art analytical techniques. When we combine this approach with real-world application-driven research, not only does the pace of scientific innovation accelerate, but impactful change occurs. This work and these systems can be applied to social change, advancing engineering, and science and solving some of the world’s greatest challenges such as sustainability and security. In this talk, I’ll outline this approach and highlight the potential and impact of application driven HCCD research.

Bio

David Ebert is the Silicon Valley Professor of Electrical and Computer Engineering at Purdue University, a Fellow of the IEEE, and director of the Visual Analytics for Command Control and Interoperability Center (VACCINE), the Visualization Science team of the Department of Homeland Security’s Command Control and Interoperability Center of Excellence. Ebert performs research in visual analytics, volume rendering, illustrative visualization, and procedural abstraction of complex, massive data. He is the recipient of the 2017 IEEE Computer Society vgTC Technical Achievement Award for seminal contributions in visual analytics. He has been very active in the visualization community, serving as Editor in Chief of IEEE Transactions on Visualization and Computer Graphics, serving as IEEE Computer Society Vice President and the IEEE Computer Society’s VP of Publications, and successfully managing a large program of external funding to develop more effective methods for visually communicating information.