Abstract

In this talk, I will briefly introduce the areas of visualization and visual analytics, with a specific focus on visualizing text and document collections. I will present examples of common visualizations, highlighting potential strengths and weaknesses, and discuss how human visual perception informs our design of perceptually salient visualizations. I will then present methods to summarize text and document collections using visualization, and explain how properties like sentiment can be estimated to augment short text snippets. I will demonstrate an interactive web-based application that visualizes tweets containing user-selected keywords as an example of this research. I will conclude by presenting a collaboration with research in public policy and anthropology, where we are studying the use of our visualization tool for risk management and communication during wildfire events.

Biography

Dr. Christopher G. Healey is a tenured Professor in the Department of Computer Science and the Goodnight Distinguished Professor of Analytics in the Institute for Advanced Analytics, both at North Carolina State University in Raleigh, North Carolina. He has received $5.5 million in external funding from sources that include the National Science Foundation (NSF), the Department of Energy (DOE), the Department of Defense (DOD), the Army Research Office (ARO), the Department of Homeland Security (DHS), the National Security Agency (NSA), and major industrial partners like Microsoft Corporation, IBM, SAS Institute, and Hewlett-Packard. Healey has published over 50 articles in major journals and conferences in the areas of visualization, visual and data analytics, computer graphics, and artificial intelligence. He is a recipient of the National Science Foundation’s CAREER Early Faculty Development Award and the North Carolina State University Outstanding Instructor Award. Healey is a Senior Member of the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE), and an Associate Editor of ACM Transactions on Applied Perception, the leading worldwide journal on the application of human perception to issues in computer science.