

Abstract for Photogrammetric Week 2019

Presenter: Daniel Weiskopf

Title: Immersive Analytics: Augmented Reality Meets Visualization

Abstract:

Immersive analytics is a new research trend in visual data analysis. It has its roots in two fields: visual analytics and immersive environments. I will first discuss the two fields independently. Visual analytics addresses complex analysis problems that cannot be solved by automatic data analysis alone, such as data mining, machine learning, or statistics. Often, such analysis problems target non-well-defined search problems, where the search target or pattern might not be known beforehand, essentially searching for the unknown. To address such analysis problems, visual analytics typically integrates interactive visualization with automatic machine-based data analysis, taking the best of both worlds.

Visual analytics traditionally works on desktop computers. With immersive analytics, we now want to combine visual analytics with immersion in virtual reality (VR) or augmented reality (AR). Such a combination allows us to support situated analytics (where the information is shown in place) and collaboration between users. I showcase a few examples of visual data representation in AR and VR, and discuss the challenges that come with transferring desktop-oriented concepts of visual analytics into immersive environments.