

Call for Papers: Special Section on Visual Analytics in Health Care

The increasing diversity and volume of health care data poses a challenging task for medical experts trying to make sense of patients' health and illness conditions, for patients trying to make sense of their health data and their health, and for analysts to conduct outcomes and discovery research. Visual analytics, the science of analytical reasoning facilitated by interactive visual interfaces, has the potential to provide great benefits to health care providers, patients, and data analysts. Interactive interfaces and visual analytical methods can help domain experts explore, filter, analyze, and communicate the large and diverse data found in the modern clinical environment.

Clinicians today are faced with the challenging task of analyzing large amounts of unstructured, multi-modal, and longitudinal data to effectively diagnose and monitor the progression of a particular disease. Health care and public health organizations strive to understand the nature of disease in broad populations and improve overall operational performance while still maintaining patient care quality and safety. Patients are confronted with the difficult task of understanding the associations between a broad range of clinical values and their own patient-generated health data to uncover insights relevant to managing their health and wellness. Visualization and visual analytics have the potential to benefit providers, patients, and those studying populations of patients. However, to be successful, visualization-based methods must be developed to align with the unique demands of the health care system.

The primary objective of the Special Section on Visual Analytics in Health Care is to bring together medical experts, leading scientists, and visionaries to discuss visualization techniques that can be applied to health care data and to discuss the areas of health care that need more attention from the visualization and visual data mining communities. This special section will offer authors an opportunity to showcase their ongoing work on visual analytics of data related to health care and propose new methods to address the unmet needs of providers, health care organizations, and patients, as well as the organizations that serve these groups.

Topics and Scope

Applied Clinical Informatics welcomes discussions of the use of visual approaches, interaction design, statistical methods, and machine learning for healthcare data analysis. Participants may address the needs of a variety of users, including clinical researchers, epidemiologists, public health analysts, pharmacovigilance experts, physicians, hospital-based quality assurance officers, insurance claim analysts, and patients.

Suggested topics for the Special Section on Visual Analytics in Healthcare include, but are not limited to:

- Design of dashboards for public health surveillance programs
- Evaluation of visual analytics techniques and systems
- Human computer interaction

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- Improving clinical workflow with visual analytics
- Improving patient education and/or clinician-patient communication
- Improving understanding of patient behavior and experience
- Patient-developed and/or patient-driven approaches to the representation of health-related data
- Outcome forecasting or prediction
- Pandemic forecasting and tracking
- Theories of visualization in the clinical domain
- Visual analysis and exploration of longitudinal clinical data
- Visual analytics as a means for knowledge discovery
- Visual analytics for patient safety
- Visual analytics in radiology
- Visual analytics in surgery
- Visual analytics in the emergency department (ED) and operating room (OR)
- Visual analytics to explore multi-omic datasets
- Visual data mining of EMRs
- Visualization of patient-generated health data
- Visualization of prescription drugs and drug-drug interactions
- Visualization of public health data

Paper Submission and Format Guidelines

Applied Clinical Informatics encourages a diverse range of submissions and demonstrations from academic, healthcare organizations, and industry that addresses any of the topics listed above. Manuscripts may be submitted as Research Articles, State of the Art/Best Practice Papers, Case Reports, Reviews, or Letters to the Editor. All submissions should follow the Instructions for Authors at

http://www.thieme.com/media/ita/ACI_Instructions_to_Authors.pdf.

Authors are requested to Prefix “Special Section on Visual Analytics in Healthcare:” to their actual title both in the submission site (<https://mc.manuscriptcentral.com/acij>) as well as the actual manuscript.

Questions

Questions about the Special Section on Visual Analytics in Health Care should be sent to Carolyn Petersen, MS, MBI, FAMIA, at petersen.carolyn.mayo.edu.

Schedule for the Special Section

April 15, 2019 – Submissions due

May 31, 2019 – Initials decisions/requests for revisions sent to authors

June 30, 2019 – Revised manuscripts due

July 25, 2019 – Decisions to authors

Papers will be published as they are ready.