Dear colleagues,

In recognition of your research field, we are pleased to introduce to you a new journal: “Visual Informatics” ( <https://www.journals.elsevier.com/visual-informatics/> ), which is mainly concerned with the theory and algorithms on perception based visual information modeling, synthesis and processing. Visual Informatics is a peer-reviewed**,** online journal with open access to the academic community. Suggested topics include but are not limited to: Visual data acquisition and modeling, visualization and visual analysis, expressive rendering, augmented reality, natural interface based on visual perception.

The contents of its first issue are attached below for you reference:

1. Visual simulation of clouds

Y. Dobashi, K. Iwasaki, Y. Yue and T. Nishita

1. Support-free interior carving for 3D printing

Y. Xie and X. Chen

1. Image grid display: A study on automatic scrolling presentation

M. Porta and S. Ricotti

4. Visual exploration of movement and event data with interactive time masks

N. Andrienko, G. Andrienko, E. Camossi, C. Claramunt, J.M. Cordero Garcia, G. Fuchs, M. Hadzagic, A.-L. Jousselme, C. Ray, D. Scarlatti and G. Vouros

We introduce the concept of time mask, which is a type of temporal filter suitable for selection of multiple disjoint time intervals in which some query conditions fulfil. Such a filter can be applied to time referenced objects, such as events and trajectories, for selecting those objects or segments of trajectories that fit in one of the selected time intervals. The selected subsets of objects or segments are dynamically summarized in various ways, and the summaries are represented visually on maps and/or other displays to enable exploration. The time mask filtering can be especially helpful in analysis of disparate data (e.g., event records, positions of moving objects, and time series of measurements), which may come from different sources. To detect relationships between such data, the analyst may set query conditions on the basis of one dataset and investigate the subsets of objects and values in the other datasets that co-occurred in time with these conditions. We describe the desired features of an interactive tool for time mask filtering and present a possible implementation of such a tool. By example of analysing two real world data collections related to aviation and maritime traffic, we show the way of using time masks in combination with other types of filters and demonstrate the utility of the time mask filtering

http://www.sciencedirect.com/science/article/pii/S2468502X17300049

1. VISTopic: A visual analytics system for making sense of large document collections using hierarchical topic modeling

Y. Yang, Q. Yao and H. Qu

Effective analysis of large text collections remains a challenging problem given the growing volume of available text data. Recently, text mining techniques have been rapidly developed for automatically extracting key information from massive text data. Topic modeling, as one of the novel techniques that extracts a thematic structure from documents, is widely used to generate text summarization and foster an overall understanding of the corpus content. Although powerful, this technique may not be directly applicable for general analytics scenarios since the topics and topic–document relationship are often presented probabilistically in models. Moreover, information that plays an important role in knowledge discovery, for example, times and authors, is hardly reflected in topic modeling for comprehensive analysis. In this paper, we address this issue by presenting a visual analytics system, VISTopic, to help users make sense of large document collections based on topic modeling. VISTopic first extracts a set of hierarchical topics using a novel hierarchical latent tree model (HLTM) (Liu et al., 2014). In specific, a topic view accounting for the model features is designed for overall understanding and interactive exploration of the topic organization. To leverage multi-perspective information for visual analytics, VISTopic further provides an evolution view to reveal the trend of topics and a document view to show details of topical documents. Three case studies based on the dataset of IEEE VIS conference demonstrate the effectiveness of our system in gaining insights from large document collections

http://www.sciencedirect.com/science/article/pii/S2468502X17300074

1. Towards better analysis of machine learning models: A visual analytics perspective

S. Liu, X. Wang, M. Liu and J. Zhu

Interactive model analysis, the process of understanding, diagnosing, and refining a machine learning model with the help of interactive visualization, is very important for users to efficiently solve real-world artificial intelligence and data mining problems. Dramatic advances in big data analytics have led to a wide variety of interactive model analysis tasks. In this paper, we present a comprehensive analysis and interpretation of this rapidly developing area. Specifically, we classify the relevant work into three categories: understanding, diagnosis, and refinement. Each category is exemplified by recent influential work. Possible future research opportunities are also explored and discussed

http://www.sciencedirect.com/science/article/pii/S2468502X17300086

1. Spatio-temporal flow maps for visualizing movement and contact patterns

B. Ni, Q. Shen, J. Xu and H. Qu

The advanced telecom technologies and massive volumes of intelligent mobile phone users have yielded a huge amount of real-time data of people’s all-in-one telecommunication records, which we call telco big data. With telco data and the domain knowledge of an urban city, we are now able to analyze the movement and contact patterns of humans in an unprecedented scale. Flow map is widely used to display the movements of humans from one single source to multiple destinations by representing locations as nodes and movements as edges. However, it fails the task of visualizing both movement and contact data. In addition, analysts often need to compare and examine the patterns side by side, and do various quantitative analysis. In this work, we propose a novel spatio-temporal flow map layout to visualize when and where people from different locations move into the same places and make contact. We also propose integrating the spatiotemporal flow maps into existing spatiotemporal visualization techniques to form a suite of techniques for visualizing the movement and contact patterns. We report a potential application the proposed techniques can be applied to. The results show that our design and techniques properly unveil hidden information, while analysis can be achieved efficiently.

http://www.sciencedirect.com/science/article/pii/S2468502X17300098

8. Recent advances in transient imaging: A computer graphics and vision perspective

Jarabo, B. Masia, J. Marco and D. Gutierrez

Visual Informatics is launched by State Key Lab of CAD&CG, Zhejiang University in cooperation with Elsevier. We look forward to your kind attention and contribution to this new journal!

With best regards!

Editorial Office of Visual Informatics