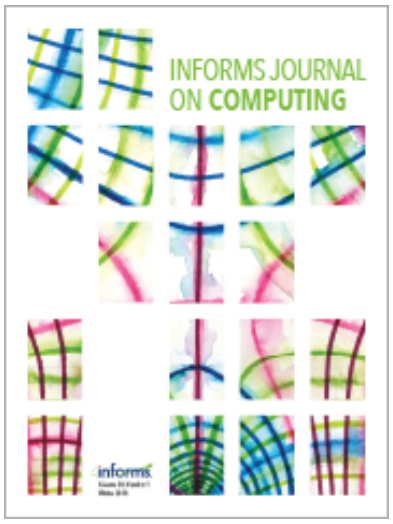


INFORMS Journal on Computing

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Note from the Editor

Alice E. Smith

To cite this article:
Alice E. Smith (2021) Note from the Editor. INFORMS Journal on Computing

Published online in Articles in Advance 15 Jul 2021

. https://doi.org/10.1287/ijoc.2021.1102

http://pubsonline.informs.org/journal/ijoc

INFORMS JOURNAL ON COMPUTING
Articles in Advance, pp. 1–2
ISSN 1091-9856 (print), ISSN 1526-5528 (online)

Note from the Editor

Alice E. Smith[a]

[a] Department of Industrial and Systems Engineering, Auburn University, Auburn, Alabama 36849
Contact: smithae@auburn.edu, https://orcid.org/0000-0001-8808-0663 (AES)

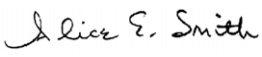
Published Online in Articles in Advance: July 15, 2021

https://doi.org/10.1287/ijoc.2021.1102

We are announcing the winners of *INFORMS Journal on Computing* (*IJOC*) Test of Time Paper Award to cover the backlog of awards since the journal's inception. The energetic and able committee chaired by John Chinneck with members Bill Cook, Bruce Golden, Pascal Van Hentenryck, and David Woodruff have selected the awardee, covering the period 2000–2004. What follows is the citation from the award committee and then a reflection on the paper and this award by the authors.

I want to thank the committee for their superb efforts and am very pleased to share this recognition of the impactful heritage of our journal.

All my best,



The Test of Time Award for papers published in the *INFORMS Journal on Computing* in the years 2000–2004 is awarded to the following:

A Framework for the Evaluation of Session Reconstruction Heuristics in Web-Usage Analysis

Myra Spiliopoulou, Bamshad Mobasher, Bettina Berendt, and Miki Nakagawa
INFORMS Journal on Computing 15(2):171–190
https://doi.org/10.1287/ijoc.15.2.171.14445

Test of Time Award Citation 2000–2004

This paper established methods for evaluating techniques needed to analyze web-usage data when analysis of web-usage data was still relatively new. The techniques that are the subject of analysis concern dealing with estimating values for data that are missing from web usage logs. The authors provide performance measures that are sensitive to errors in the estimation process and therefore provide a mechanism for evaluating which reconstruction techniques may be most appropriate for a given application. The paper made an important contribution to research on web-usage analysis at the time of its publication and continues to be cited as data mining has expanded to user logs in social media in addition to web use.

Comments on This *IJOC* Test of Time Paper Award from the Authors, Myra Spiliopoulou, Bamshad Mobasher, Bettina Berendt, and Miki Nakagawa

We are grateful and honored by the decision of *IJOC* to select our work for its Test of Time Award. The journal has long been an authoritative home for original and high-quality computational work, covering theories, methods, experiments, systems, and applications.

The work presented in this article was inspired by earlier pioneering works by Pyle (1999) and Cooley et al. (1999), which emphasized to scientists and practitioners the critical role of data preparation in the knowledge discovery process. Our work especially focused on the unique characteristics of data describing interactions with web- or internet-based services, the importance of which has grown over the past two decades.

Since the publication of our *IJOC* article, many of the concepts and insights originating from it have matured into well-established practices and principles in data science and data engineering, which point out that data are never "raw," emphasize what values and decisions went into the preparation of data (and by whom), and seek to document such observations and provenance in ways that make insights gleaned from data understandable and actionable for diverse stakeholders. Data preparation has become essential for all data and remains mission-critical for web data, as the importance of the web has grown in ways that could hardly have been imagined at the beginning of this millennium.

Our article focused on web usage data, stored in web server logs of e-commerce, e-Education, and similar websites, capturing user interactions with web resources and applications. Indeed, website operators soon

realized that such data represented a treasure trove of user goals, expectations, and frustrations. They also realized that appropriate data preparation was an indispensable first step toward personalized services, contributing to user loyalty, customer conversion, and lift in profits.

Since the publication of our article in 2003, technology has evolved; the server logs we investigated are now one of the many heterogeneous data sources used for the analysis of user behavior, for service personalization, and for the many tasks of web science. However, some key questions we addressed remain central: how to interpret the stream of user activities and their interactions with each other and with web resources and services; how to gain insights into the intentions and expectations of users based on their behavior; how to separate between activities that reflect intentions or even belong causally together and activities that are triggered by the particularities of the design of the offered services.

Looking back at the article and our joint work of that time, we also see how these scientific questions and threads of thinking have influenced our own careers and scientific work.

The article proved to be essential for our qualifications and career steps of that time. We continued to investigate user activities; as we moved toward further research threads, we retained our attitude toward the importance of faithful reconstruction of user behavior.

Bettina's work drew on these reconstructions and helped her team analyze the influences of language and culture on the use as well as on the production of web content. Understanding how to find semantic units in sequential data also became essential for studies that tracked data and information flows, those that involve or are visible to users as well as those that are hidden from users—often in privacy-violating or unfair ways.

The key insights presented in the article have informed Bamshad's research in user modeling and personalization. In particular, this early work was the cornerstone of his later research on personalized recommender systems that rely on user interaction data to build effective predictive models. Studying also how to improve fairness in recommender systems, he was able to reconnect with Bettina in the organization of a workshop series, whose fourth edition in 2021 shows the ongoing importance of this field.

Myra's professorial career started with her research on web mining. Over the years, she gradually moved toward analyzing streams capturing further types of user activity and now also works in investigating user interaction with mHealth apps and e-Health sites. She now studies how user behavior leads to clues about the user's well-being and about how a disease is perceived. The old insights on session reconstruction led to the insight that not only user activity but also the absence thereof can contribute to understanding the user and to designing personalized treatments.

In receiving the award, we would like to thank our colleagues from that foundational period for hours, days, and months of intensive joint work, exchange of ideas and inspiration, and for jointly navigating the web, back then as a new universe of human communication and interaction. Some of our peers from that period have left academia, among them our coauthor for this article, Miki Nakagawa. It is perhaps an irony, but at the same time an encouraging sign of a still-possible "un-trackability" in this world, that we have not been able to locate Miki as of this writing; but we are sure that she will be just as thrilled to hear about this test-of-time award as we are.

About the *INFORMS Journal on Computing* Test of Time Award:

- *Number of awards:* One per calendar year.
- *Goal:* Recognition of a published *IJOC* paper that has proven impactful over a length of time. Considerations can be citations per year, downloads per year, influence of sparking new areas of research, practical implications, significance of findings, and so forth.
- *Criteria:* All those papers published in the time window are considered. A paper can only be recognized with this award once. The time window is defined as a rolling window of 5 years starting 15 years ago.
- *Deadline:* None. Papers are considered on an annual basis.
- *Selection:* Small committee appointed by the editor-in-chief.
- *Recognition:* Certificate of Test of Time Award and recognition in the journal (paper, authors, affiliations, citation) and relevant listservs.
- *Procedure:* The set of papers published in *IJOC* during the time window with their citations per year (since publishing) will be sent to the committee members for their deliberation. A winner is selected by the committee, and the editor-in-chief is notified.

References

Cooley R, Mobasher B, Srivastava J (1999) Data preparation for mining World Wide Web browsing patterns. *J. Knowledge Inform. Systems* 1(1):5–32.

Pyle D (1999) *Data Preparation for Data Mining* (Morgan Kaufmann Publishers Inc., San Francisco).