Proceedings of the 3rd ASIS SIG/CR Classification Research Workshop

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Editors and workshop co-chairs:
Raya Fidel
Barbara H. Kwaśnik
Philip J. Smith

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Preface

General Comments

These *Proceedings* are a *working copy* of the papers and personal statements of participants of the 3rd ASIS SIG/CR Workshop on Classification Research, to be held in Pittsburgh, PA at the ASIS Annual Meeting on Sunday, October 25th. Our aim is that participants have a chance to review in advance the contributions and descriptions of those who will be in attendance. As such, the papers are not in their final versions, and authors will have the opportunity to revise and edit their papers and paersonal statements. After revisions, the *Proceedings* will be published as an ASIS monograph by Learned Information, Inc., under the title *Advances in Classification Research*. Vol.3, and will be available for purchase in 1993.

Advances in computer technology are rapidly expanding the areas where classification research can be applied to enhance the retrieval of information. Whether this information consists of the full texts of documents, graphics, collections of previously used plans, or libraries of computer software, there is a great need to provide effective means for exploration and retrieval of the contents of large databases.

The papers in this volume serve to highlight a number of important issues that these technological advances raise, including:

- Can we develop a theory of knowledge organization that *supports* effective search through large information sources?
- Can we efficiently support the creation of large-scale databases that use such organizational principles, either through the development of tools to aid human indexers or through automatic processing of text by the computer?
- Can we develop interfaces to help explore these knowledge structures more effectively, using visualization and abstraction tools?

Following the tradition of previous years, the participants in the Workshop come from a variety of disciplines and present a wide spectrum of interests and approaches to classification. Some papers describe how researchers applied classification systems for a diversity of purposes: to provide subject retrieval in a large text retrieval system by clustering vectors; to create a map-like representation of the content of a document database; to facilitate plan reuse; to aid searching a music database by forming semantically organized vocabulary sets; to provide automated mechanisms for users to broaden or narrow their searches; and to design a cooperative query answering system, one that tries to find an approximate answer when no exact answer to the original query is available.

Other papers examine the nature of classification and classificatory systems. Looking at automated methods for classifying and for knowledge representation, one paper proposes a computer representation technique to organize knowledge about hierarchies; another suggests the use of an associative semantic network to facilitate machine-aided classification; and a third paper brings forth a proposal for a two-tiered taxonomy to enable slot organization in knowledge bases. Papers also examine the role of classification in the visualization of spatial clusters through graphical techniques, in building theories, and in compatibility among index languages.

All the submissions were interesting and thought provoking. In our selection process, we aimed for broad coverage of topics, and we tried to include those papers that would stimulate discussion and further exploration of the ideas introduced by the presenters.

Organization of These Proceedings

The papers that will be presented at the Workshop are arranged in alphabetical order by the last name of the first author. Following the papers are the Personal Statements of all the Workshop participants who submitted such a statement as of September 15, 1992. These are also arranged in alphabetical order. We did not specify what should go into these personal statements, and they are essentially unedited.

Acknowledgments

We would like to thank all the participants for their submissions. The authors of the papers to be presented were most cooperative in working with us on edits and clarifications. Our aim was to make the papers understandable to a wide audience, and we acknowledge their patience with our questions and suggestions.

These *Proceedings* will be indexed by Marilyn Ostergren, who has graciously volunteered her services, and we would like to offer her many thanks in advance.

We wish to thank ASIS officials and staff, who have subsidized this Workshop, have nurtured it along, and have been most enthusiastic about all aspects, but in particular, have facilitated the preparation and distribution of these *Proceedings*. Our Schools, the Graduate School of Library and Information Science at the University of Washington, the School of Information Studies at Syracuse University, and the Department of Industrial and Systems Engineering at The Ohio State University, have also facilitated our efforts at organizing this Workshop. Once again we thank Bill Murray for his efforts in formatting and preparing the manuscript.

R.F., B.H.K., & P.J.S.

Comments or questions may be sent to:

Barbara H. Kwasnik
School of Information Studies
4-206 Center for Science and Technology
Syracuse University
Syracuse, NY 13244-4100
Office: (315) 443-2911
Fax: (315) 443-5806
Internet: bkwasnik@suvm.acs.syr.edu

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James D. Anderson
Yufeng Chen
Nathan Combs
Raya Fidel
Thea Ghiselli-Crippa
Harriette Hemmasi
Stephen C. Hirtle
Susanne M. Humphrey
P.Michael Hutchins
Barbara H. Kwasnik
Elizabeth DuRoss Liddy
Pierre Martin
Matthew Merzbacher
Mary Micco
Woojin Paik
Alexander S. Ran
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Fred Rowley
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Lei Zeng