

# Lecture Notes in Artificial Intelligence 3430

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# Active Mining

Second International Workshop, AM 2003  
Maebashi, Japan, October 28, 2003  
Revised Selected Papers

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# Foreword

This volume contains the papers selected for presentation at the 2nd International Workshop on Active Mining (AM 2003) which was organized in conjunction with the 14th International Symposium on Methodologies for Intelligent Systems (ISMIS 2003), held in Maebashi City, Japan, 28–31 October, 2003. The workshop was organized by the Maebashi Institute of Technology in cooperation with the Japanese Society for Artificial Intelligence. It was sponsored by the Maebashi Institute of Technology, the Maebashi Convention Bureau, the Maebashi City Government, the Gunma Prefecture Government, JSAI SIGKBS (Japanese Artificial Intelligence Society, Special Interest Group on Knowledge-Based Systems), a Grant-in-Aid for Scientific Research on Priority Areas (No. 759) “Implementation of Active Mining in the Era of Information Flood,” US AFOSR/AOARD, the Web Intelligence Consortium (Japan), the Gunma Information Service Industry Association, and Ryomo Systems Co., Ltd.

ISMIS is a conference series that was started in 1986 in Knoxville, Tennessee. Since then it has been held in Charlotte (North Carolina), Knoxville (Tennessee), Torin (Italy), Trondheim (Norway), Warsaw (Poland), Zakopane (Poland), and Lyon (France).

The objective of this workshop was to gather researchers as well as practitioners who are working on various research fields of active mining, share hard-learned experiences, and shed light on the future development of active mining. This workshop addressed many aspects of active mining, ranging from theories, methodologies, and algorithms to their applications. We believe that it also produced a contemporary overview of modern solutions and it created a synergy among different branches but with a similar goal — facilitating data collection, processing, and knowledge discovery via active mining.

We express our appreciation to the sponsors of the symposium and to all who submitted papers for presentation and publication in the proceedings. Our sincere thanks especially go to the Organizing Committee of AM 2003: Shusaku Tsumoto, Hiroshi Motoda, Masayuki Numao, and Takahira Yamaguchi. Also, our thanks are due to Alfred Hofmann of Springer for his continuous support.

March 2005

Ning Zhong, Zbigniew W. Raś  
ISMIS’03 Symposium Chairs

# Preface

This volume contains the papers based on the tutorials of ISMIS 2003 and the papers selected from the regular papers presented at the 2nd International Workshop on Active Mining (AM 2003) held as part of ISMIS 2003, held at Maebashi, Gunma, October 28, 2003. (URL: [http://www.med.shimane-u.ac.jp/med\\_info/am2003](http://www.med.shimane-u.ac.jp/med_info/am2003))

There were 38 paper submissions from Japan, US, Korea, China and Vietnam for AM 2003. Papers went through a rigorous reviewing process. Each paper was reviewed by at least three Program Committee members. When all the reviews of a paper were in conflict, another PC member was asked to review this paper again. Finally, 20 submissions were selected by the Program Committee members for presentation.

The PC members who attended this workshop reviewed all the papers and the presentations during the workshops and decided that 12 of them could be accepted with minor revisions, and 8 of them could be accepted with major revisions for the publication in the postproceedings. The authors were asked to submit the revised versions of their papers and, again, the PC members reviewed them for about four months. Through this process, we accepted 16 out of 20 papers. Thus, of 38 papers submitted, 16 were accepted for this postproceedings, corresponding to an acceptance ratio of only 42.1%.

AM 2003 provided a forum for exchanging ideas among many researchers in various areas of decision support, data mining, machine learning and information retrieval and served as a stimulus for mutual understanding and cooperation.

The papers contributed to this volume reflect advances in active mining as well as complementary research efforts in the following areas:

- Discovery of new information sources
- Active collection of information
- Tools for information collection
- Information filtering
- Information retrieval, collection, and integration on the WWW for data mining
- Data mining processes
- Inspection and validation of mined pieces of knowledge
- Description languages for discovery evaluation and accountability
- Interactive mining design and deployment of customer response models in CRM
- Adaptive modeling in data mining
- Selection, transformation, and construction of features
- Selection and construction of instances
- Exception/deviation discovery visualization
- Spatial data mining

- Text mining
- Graph mining
- Success/failure stories in data mining and lessons learned
- Data mining for evidence-based medicine
- Distributed data mining
- Data mining for knowledge management
- Active learning
- Meta learning
- Active sampling
- Usability of mined pieces of knowledge
- User interface for data mining

We wish to express our gratitude to Profs. Zbigniew W. Raś and Ning Zhong, who accepted our proposal on this workshop and helped us to publish the post-proceedings. Without their sincere help, we could not have published this volume.

We wish to express our thanks to all the PC members, who reviewed the papers at least twice, for the workshop and the postproceedings. Without their contributions, we could not have selected high-quality papers with high confidence.

We also want to thank all the authors who submitted valuable papers to AM 2003 and all the workshop attendees.

This time, all the submissions and reviews were made through the CyberChair system (URL: <http://www.cyberchair.org/>). We wish to thank the CyberChair system development team. Without this system, we could not have edited this volume in such a speedy way.

We also extend our special thanks to Dr. Shoji Hirano, who launched the CyberChair system for AM 2003 and contributed to editing this volume.

Finally, we wish to express our thanks to Alfred Hofmann at Springer for his support and cooperation.

March 2005

Shusaku Tsumoto  
Takahira Yamaguchi  
Masayuki Numao  
Hiroshi Motoda

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