

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, Lancaster, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Friedemann Mattern

ETH Zurich, Zürich, Switzerland

John C. Mitchell

Stanford University, Stanford, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

C. Pandu Rangan

Indian Institute of Technology, Madras, India

Bernhard Steffen

TU Dortmund University, Dortmund, Germany

Demetri Terzopoulos

University of California, Los Angeles, CA, USA

Doug Tygar

University of California, Berkeley, CA, USA

Gerhard Weikum

Max Planck Institute for Informatics, Saarbrücken, Germany

More information about this series at <http://www.springer.com/series/7409>

An Liu · Yoshiharu Ishikawa
Tieyun Qian · Sarana Nutanong
Muhammad Aamir Cheema (Eds.)

Database Systems for Advanced Applications

DASFAA 2015 International Workshops, SeCoP, BDMS, and Posters
Hanoi, Vietnam, April 20–23, 2015
Revised Selected Papers

Editors

An Liu
Soochow University
Suzhou
China

Yoshiharu Ishikawa
Nagoya University
Nagoya
Japan

Tieyun Qian
Wuhan University
Wuhan
China

Sarana Nutanong
University of Hong Kong
Hong Kong
China

Muhammad Aamir Cheema
Monash University
Clayton, VIC
Australia

ISSN 0302-9743

ISSN 1611-3349 (electronic)

Lecture Notes in Computer Science

ISBN 978-3-319-22323-0

ISBN 978-3-319-22324-7 (eBook)

DOI 10.1007/978-3-319-22324-7

Library of Congress Control Number: 2015944507

LNCS Sublibrary: SL3 – Information Systems and Applications, incl. Internet/Web, and HCI

Springer Cham Heidelberg New York Dordrecht London

© Springer International Publishing Switzerland 2015

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media
(www.springer.com)

Message from the Workshop Chairs

Welcome to proceedings of the workshops held in conjunction with the 20th International Conference on Database Systems for Advanced Applications (DASFAA 2015), which took place in Hanoi, Vietnam.

The objective of the workshops associated with DASFAA 2015 is to give participants the opportunity to present and discuss emerging hot topics related to database systems and applications. To this end, we selected the following two workshops:

1. The Second International Workshop on Semantic Computing and Personalization (SeCoP 2015)
2. The Second International Workshop on Big Data Management and Service (BDMS 2015)

These proceedings contain selected workshop papers. We would like to express our sincere thanks for the hard work of the individual workshop organizers for organizing their workshops, handling the paper submissions, reviewing, and selecting workshop papers to achieve a set of excellent programs.

An Liu
Yoshiharu Ishikawa

Message from the Poster Chairs

Welcome to the proceedings of the Poster Session of the 20th International Conference on Database Systems for Advanced Applications (DASFAA), held during 20–23 April, 2015, in Hanoi, Vietnam.

The call for posters resulted in a total of 28 submissions from China, India, Korea, Israel, Taiwan, Japan, and Germany. Every submission was assigned to three Program Committee members for review. The Program Committee decided to accept 12 posters. In addition, there were five papers transferred from the research track. Hence, we had 17 papers in total for the poster session. These papers cover an interesting and diverse set of topics in database systems, scalable data management, and data mining.

We would like to thank the Program Committee members who devoted their time contributing to the strong poster program. We would also like to extend a big thank you to the main conference organizers, especially Matthias Renz, Trinh Vu Tuyet, Nguyen Hong Phuong, and Muhammad Aamir Cheema, for coordinating with us.

June 2015

Sarana Nutanong
Tieyun Qian

DASFAA 2015 Workshop Organizers

Workshop Co-chairs

An Liu	Soochow University, China
Yoshiharu Ishikawa	Nagoya University, Japan

Publication Chair

Muhammad Aamir Cheema	Monash University, Australia
-----------------------	------------------------------

Second International Workshop on Semantic Computing and Personalization (SeCoP 2015)

Workshop Co-organizers

Fu Lee Wang	Caritas Institute of Higher Education, Hong Kong SAR, China
Yi Cai	South China University of Technology, China
Haoran Xie	Caritas Institute of Higher Education, Hong Kong SAR, China

Program Committee

Ho Wai Shing	Caritas Institute of Higher Education, Hong Kong SAR, China
Jianfeng Si	Institute for Infocomm Research, Singapore
Wei Chen	Agricultural Information Institute of CAAS, China
Xudong Mao	Alibaba, China
Rao Yanghui	Sun Yat-Sen University, China
Raymond Y.K. Lau	City University of Hong Kong, Hong Kong SAR, China
Rong Pan	Sun Yat-Sen University, China
Yunjun Gao	Zhejiang University, China
Shaojie Qiao	Southwest Jiaotong University, China
Jianke Zhu	Zhejiang University, China
Neil Y. Yen	University of Aizu, Japan
Derong Shen	Northeastern University, China

Jing Yang	Research Center on Fictitious Economy & Data Science CAS, China
Yuqing Sun	Shangdong University, China
Raymond Wong	Hong Kong University of Science and Technology, Hong Kong, China
Jie Tang	Tsinghua University, China
Jian Chen	South China University of Technology, China
Wong Tak Lam	Hong Kong Institute of Education, Hong Kong, SAR China
Xiaodong Zhu	University of Shanghai for Science and Technology, China
Zhiwen Yu	South China University of Technology, China
Wenjuan Cui	China Academy of Sciences, China
Shaoux Song	Tsinghua University, Beijing, China
Tao Wang	South China University of Technology, China

Second International Workshop on Big Data Management and Service (BDMS 2015)

Workshop Co-organizers

Xiaoling Wang	East China Normal University, China
Kai Zheng	The University of Queensland, Australia
Guanfeng Liu	Soochow University, China

Program Committee

Muhammad Aamir Cheema	Monash University, Australia
Cheqing Jin	East China Normal University, China
Qizhi Liu	Nanjing University, China
Bin Mu	Tongji University, China
Xuequn Shang	Northwestern Polytechnical University, China
Weiwei Sun	Fudan University, China
Yan Wang	Macquarie University, Australia
Lizhen Xu	Southeast University, China
Xiaochun Yang	Northeastern University, China
Kun Yue	Yunnan University, China
Dell Zhang	University of London, UK
Xiao Zhang	Renmin University of China, China

DASFAA 2015 Posters Organizers

Poster Co-chairs

Sarana Nutanong

City University of Hong Kong, Hong Kong SAR,
China

Tieyun Qian

Wuhan University, China

Program Committee

Muhammad Aurangzeb
Ahmad

University of Minnesota, USA

Zohab Borbora

University of Minnesota, USA

Mohammed Eunus Ali

Bangladesh University of Engineering and Technology,
Bangladesh

Kuo-Wei Hsu

National Cheng Chi University, Taiwan

Cheqing Jin

East China Normal University, China

Peiquan Jin

University of Science and Technology, China

Shin'ichi Konomi

The University of Tokyo, Japan

Guohui Li

Huazhong University of Science and Technology,
China

Qi Liu

University of Science and Technology, China

Yubao Liu

Sun Yat-Sen University, China

Nishith Pathak

Ninja Metrics Inc., USA

Daling Wang

Northeastern University, China

Huayu Wu

Institute for Infocomm Research (I2R), Singapore

Wei Wu

Institute for Infocomm Research (I2R), Singapore

Xiaoyin Wu

Wuhan University, China

Hairuo Xie

University of Melbourne, Australia

Guandong Xu

University of Technology Sydney, Australia

Yuanyuan Zhu

Wuhan University, China

Contents

The Second International Workshop on Semantic Computing and Personalization (SeCoP)

A Novel Method for Clustering Web Search Results with Wikipedia Disambiguation Pages	3
<i>Zhi Huang, Zhendong Niu, Donglei Liu, Wenjuan Niu, and Wei Wang</i>	
Integrating Opinion Leader and User Preference for Recommendation	17
<i>Dong Wu, Kai Yang, Tao Wang, Weiang Luo, Huaqing Min, and Yi Cai</i>	
Learning Trend Analysis and Prediction Based on Knowledge Tracing and Regression Analysis	29
<i>Yali Cai, Zhendong Niu, Yingwang Wang, and Ke Niu</i>	
Intensive Maximum Entropy Model for Sentiment Classification of Short Text	42
<i>Yanghui Rao, Jun Li, Xiyun Xiang, and Haoran Xie</i>	
Maintaining Ranking Lists in Dynamic Virtual Environments	52
<i>Mingyan Teng, Denghao Ma, and Xiaoyong Du</i>	
Knowledge Communication Analysis Based on Clustering and Association Rules Mining	66
<i>Qingyuan Wu, Qi Wu, Sidi Zhao, Mingxue Wei, and Fu Lee Wang</i>	
Sentiment Detection of Short Text via Probabilistic Topic Modeling	76
<i>Zewei Wu, Yanghui Rao, Xin Li, Jun Li, Haoran Xie, and Fu Lee Wang</i>	
Schema Matching Based on Source Codes	86
<i>Guohui Ding, Guoren Wang, Chunlong Fan, and Shuo Chen</i>	
A Quota-Based Energy Consumption Management Method for Organizations Using Nash Bargaining Solution	98
<i>Renting Liu and Xuesong Jonathan Tan</i>	
Entity Relation Mining in Large-Scale Data	109
<i>Jingnan Li, Yi Cai, Qixuan Wang, Shuyue Hu, Tao Wang, and Huaqing Min</i>	
A Collaborative Filtering Model for Personalized Retweeting Prediction	122
<i>Jun Li, Jiamin Qin, Tao Wang, Yi Cai, and Huaqing Min</i>	

Finding Paraphrase Facts Based on Coordinate Relationships 135
Meng Zhao, Hiroaki Ohshima, and Katsumi Tanaka

**The Second International Workshop on Big Data Management
and Service (BDMS)**

Emergency Situation Awareness During Natural Disasters
Using Density-Based Adaptive Spatiotemporal Clustering 155
Tatsuhiro Sakai, Keiichi Tamura, and Hajime Kitakami

Distributed Data Managing in Health Care Social Network
Based on Mobile P2P 170
Ye Wang, Hong Liu, and Lin Wang

Survey of MOOC Related Research 181
Yanxia Pang, Min Song, YuanYuan Jin, and Ying Zhang

Modeling Large Time Series for Efficient Approximate Query Processing . . . 190
*Kasun S. Perera, Martin Hahmann, Wolfgang Lehner,
Torben Bach Pedersen, and Christian Thomsen*

Personalized User Value Model and Its Application. 205
Gang Yu, Zhiyan Wang, and Yi Cai

Posters

Flexible Aggregation on Heterogeneous Information Networks 217
Dan Yin, Hong Gao, Zhaonian Zou, Xianmin Liu, and Jianzhong Li

Discovering Organized POI Groups in a City 223
*Yanxia Xu, Guanfeng Liu, Hongzhi Yin, Jiajie Xu, Kai Zheng,
and Lei Zhao*

Multi-roles Affiliation Model for General User Profiling 227
Lizi Liao, Heyan Huang, and Yashen Wang

Needle in a Haystack: Max/Min Online Aggregation in the Cloud. 234
Xiang Ci, Fengming Wang, and Xiaofeng Meng

FFD-Index: An Efficient Indexing Scheme for Star Subgraph Matching
on Large RDF Graphs 240
Xuedong Lyu, Xin Wang, Yuan-Fang Li, and Zhiyong Feng

Leveraging Interactive Knowledge and Unlabeled Data in Gender
Classification with Co-training 246
Jingjing Wang, Yunxia Xue, Shoushan Li, and Guodong Zhou

Interactive Gender Inference in Social Media	252
<i>Zhu Zhu, Jingjing Wang, Shoushan Li, and Guodong Zhou</i>	
Joint Sentiment and Emotion Classification with Integer Linear Programming	259
<i>Rong Wang, Shoushan Li, Guodong Zhou, and Hanxiao Shi</i>	
Mining Wikileaks Data to Identify Sentiment Polarities in International Relationships	266
<i>Arpit Jain and Arnab Bhattacharya</i>	
Extracting Indoor Spatial Objects from CAD Models: A Database Approach	273
<i>Dazhou Xu, Peiquan Jin, Xiaoxiang Zhang, Jiang Du, and Lihua Yue</i>	
Incremental Class Discriminant Analysis on Interval-Valued Emitter Signal Parameters	280
<i>Xin Xu, Wei Wang, and Jiaheng Lu</i>	
Visualization Tool for Boundary Image Matching Based on Time-Series Data	286
<i>Seongwoo Moon, Sanghun Lee, Bum-Soo Kim, and Yang-Sae Moon</i>	
Performance Analysis of Hadoop-Based SQL and NoSQL for Processing Log Data	293
<i>Siwoon Son, Myeong-Seon Gil, Yang-Sae Moon, and Hee-Sun Won</i>	
SVIS: Large Scale Video Data Ingestion into Big Data Platform.	300
<i>Xiaoyan Guo, Yu Cao, and Jun Tao</i>	
A ³ SAR: Context-Aware Spatial Augmented Reality for Anywhere, Anyone, and Analysis	307
<i>Benjin Mei, Dehai Liu, Xike Xie, Jinchuan Chen, and Xiaoyong Du</i>	
Semi-supervised Clustering Method for Multi-density Data.	313
<i>Walid Atwa and Kan Li</i>	
Towards a Pattern-Based Query Language for Document Databases	320
<i>Xuhui Li, Zhengqi Liu, Mengchi Liu, Xiaoying Wu, and Shanfeng Zhu</i>	
Author Index	327