Lecture Notes in Computer Science

11292

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, Zurich, 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, Chennai, 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

Yuen-Hsien Tseng · Tetsuya Sakai Jing Jiang · Lun-Wei Ku Dae Hoon Park · Jui-Feng Yeh Liang-Chih Yu · Lung-Hao Lee Zhi-Hong Chen (Eds.)

Information Retrieval Technology

14th Asia Information Retrieval Societies Conference, AIRS 2018 Taipei, Taiwan, November 28–30, 2018 Proceedings



Editors

Yuen-Hsien Tseng

National Taiwan Normal University

Taipei, Taiwan

Tetsuya Sakai Waseda University Tokyo, Japan

Jing Jiang

School of Information Systems Singapore Management University

Singapore, Singapore

Lun-Wei Ku Academia Sinica Taipei, Taiwan

Dae Hoon Park Huawei Research America Champaign, IL, USA Jui-Feng Yeh

National Chiayi University

Chiayi City, Taiwan

Liang-Chih Yu Yuan Ze University Taovuan City, Taiwan

Lung-Hao Lee

National Central University Taoyuan City, Taiwan

Zhi-Hong Chen

National Taiwan Normal University

Taipei City, Taiwan

ISSN 0302-9743 ISSN 1611-3349 (electronic) Lecture Notes in Computer Science ISBN 978-3-030-03519-8 ISBN 978-3-030-03520-4 (eBook) https://doi.org/10.1007/978-3-030-03520-4

Library of Congress Control Number: 2018960429

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

© Springer Nature Switzerland AG 2018

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. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Welcome to the proceedings of the 14th Asia Information Retrieval Societies conference (AIRS 2018)! AIRS is the premier Asian regional conference in the broad area of information retrieval (IR). Following the successes of IROL 1996 (International Workshop on IR with Oriental Languages), and IRAL (International Workshop on IR with Asian Languages, 1997–2003), the first AIRS (Asia IR *Symposium*) was held in 2004 in Beijing. In 2010, the first Asia Information Retrieval Societies Conference (AIRS 2010) was held in Taipei. And after eight years, we returned to Taipei!

The acceptance rates for AIRS 2018 were 34% (8/24) for full papers and 53% (9/17) for short/demo papers. Each paper was reviewed by three Program Committee (PC) members and the final decisions were made by the PC chairs (for full papers) and the short-paper PC chairs (for short and demo papers). Given the limited number of accepted papers, this year we decided to have more flexible page limits for camera-ready papers compared with previous years: 12 pages plus references for full papers, and 6 pages plus references for short/demo papers. The best paper (for full papers only) was selected by the PC chairs and the short-paper PC chairs by considering the review scores.

The AIRS 2018 proceedings also includes three short papers from AIRS 2017 that were inadvertently excluded from the AIRS 2017 proceedings published last year.

We would like to thank our PC members, general chair, publication chair, local chairs, and the AIRS Steering Committee for helping us compile an exciting conference program. Enjoy!

November 2017

Yuen-Hsien Tseng
Tetsuya Sakai
Jing Jiang
Lun-Wei Ku
Dae Hoon Park
Jui-Feng Yeh
Liang-Chih Yu
Lung-Hao Lee
Zhi-Hong Chen

Organization

General Chair

Yuen-Hsien Tseng National Taiwan Normal University, Taiwan

Program Co-chairs

Tetsuya Sakai Waseda University, Japan

Jing Jiang Singapore Management University, Singapore

Poster and Demo Co-chairs

Lun-Wei Ku Academia Sinica, Taiwan

Dae Hoon Park Huawei Research America, USA

Publication Chair

Jui-Feng Yeh National Chiayi University, Taiwan

Local Co-chairs

Liang-Chih Yu Yuan Ze University, Taiwan

Lung-Hao Lee National Central University, Taiwan

Zhi-Hong Chen National Taiwan Normal University, Taiwan

AIRS 2018 Program Committee

Hiroyuki Toda NTT, Japan

Jaewon Kim RMIT University, Australia

Kazunari Sugiyama National University of Singapore, Singapore

Harumi Murakami Osaka City University, Japan

Atsushi Keyaki Tokyo Institute of Technology, Japan

Suthee Chaidaroon Santa Clara University, USA Yue Wang University of Michigan, USA

Xiangnan He National University of Singapore, Singapore

Yohei Seki University of Tsukuba, Japan Makoto P. Kato Kyoto University, Japan Cheng Luo Tsinghua University, China Deguang Kong Yahoo Research, USA Kyoto University, Japan

Liu Yang University of Massachusetts Amherst, USA

Zhicheng Dou Renmin University of China, China

VIII Organization

Chenliang Li Wuhan University, China Koji Eguchi Kobe University, Japan

Hyun Joon Jung Apple, USA

Hiroaki Ohshima University of Hyogo, Japan Hidetsugu Nanba Hiroshima City University, Japan

Mengwen Liu Drexel University, USA
Yiqun Liu Tsinghua University, China
Yi Fang Santa Clara University, USA

Masayuki Okamoto Corporate R&D Center, Toshiba Corporation

Sheng Wang Peking University, China

Pu-Jen Cheng
Jian-Yun Nie
Li Su
Hideo Joho
Adam Jatowt

National Taiwan University, Taiwan
University of Montreal, Canada
Academia Sinica, Taiwan
University of Tsukuba, Japan
Kyoto University, Japan

Chien Chin Chen National Taiwan University, Taiwan Sumio Fujita Yahoo! JAPAN Research, Japan

Tadashi Nomoto National Institute of Japanese Literature, Japan

Aston Zhang Amazon AI, USA

Ben He University of Chinese Academy of Sciences, China

Xianpei Han Institute of Software, Chinese Academy of Sciences, China

Hui Fang University of Delaware, USA
Masaharu Yoshioka Hokkaido University, Japan
Grace Hui Yang Georgetown University, USA
Xin Zhao Renmin University of China, China

Min Zhang Tsinghua University, China

Qingyao Ai University of Massachusetts Amherst, USA

Jun Harashima Cookpad Inc., Japan

Aixin Sun

Jaap Kamps

Nancy-I-Chin Wu

Andrew Trotman University of Otago, New Zealand

Xuanjing Huang
Udo Kruschwitz
Mark Sanderson
Fudan University, China
University of Essex, UK
RMIT University, Australia

AIRS Steering Committee

Hsin-Hsi Chen National Taiwan University, Taiwan Zhicheng Dou Renmin University of China, China

Wai Lam The Chinese University of Hong Kong, SAR China

Alistair Moffat University of Melbourne, Australia

Hwee Tou Ng National University of Singapore, Singapore

Dawei Song The Open University, UK Masaharu Yoshioka Hokkaido University, Japan

Contents

\boldsymbol{c}			_	1
•	n	C1	•	

An Ensemble Neural Network Model for Benefiting Pregnancy Health Stats from Mining Social Media	3
Chinese Governmental Named Entity Recognition	16
StanceComp: Aggregating Stances from Multiple Sources for Rumor Detection	29
Personalized Social Search Based on Agglomerative Hierarchical Graph Clustering	36
Search	
Improving Session Search Performance with a Multi-MDP Model Jia Chen, Yiqun Liu, Cheng Luo, Jiaxin Mao, Min Zhang, and Shaoping Ma	45
Analysis of Relevant Text Fragments for Different Search Task Types Atsushi Keyaki and Jun Miyazaki	60
A FAQ Search Training Method Based on Automatically Generated Questions	67
Embedding	
A Neural Labeled Network Embedding Approach to Product Adopter Prediction	77
RI-Match: Integrating Both Representations and Interactions for Deep Semantic Matching	90

Modeling Relations Between Profiles and Texts	103
Recommendation and Classification	
Missing Data Modeling with User Activity and Item Popularity in Recommendation	113
Influence of Data-Derived Individualities on Persuasive Recommendation Masashi Inoue and Hiroshi Ueno	126
Guiding Approximate Text Classification Rules via Context Information Wai Chung Wong, Sunny Lai, Wai Lam, and Kwong Sak Leung	133
Medical and Multimedia	
Key Terms Guided Expansion for Verbose Queries in Medical Domain Yue Wang and Hui Fang	143
Ad-hoc Video Search Improved by the Word Sense Filtering	
of Query Terms	157
Considering Conversation Scenes in Movie Summarization	164
Best Paper Session	
Hierarchical Attention Network for Context-Aware Query Suggestion Xiangsheng Li, Yiqun Liu, Xin Li, Cheng Luo, Jian-Yun Nie, Min Zhang, and Shaoping Ma	173
Short Papers from AIRS 2017	
Assigning NDLSH Headings to People on the Web	189
MKDS: A Medical Knowledge Discovery System Learned from Electronic Medical Records (Demonstration)	196
Predicting Next Visited Country of Twitter Users	203
Author Index	211