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Eng-Siong Chng Haizhou Li (Eds.)

Chinese Spoken Language Processing

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Message from the General Chair

As the General Chair, I am indeed honored to pen the first words of the ISCSLP 2006 proceedings. On this occasion, I share with you the excitement in our community as we approach the end-point of an eventful, two-year journey, while anticipating a bright future, full of stimulating and inspiring scientific programs. Over the last two years, exciting research endeavors in Chinese spoken language processing have been pursued vigorously all over the world. I feel privileged to chair the Fifth ISCSLP in Singapore this year, particularly at this juncture in our history when the Chinese language is receiving worldwide attention, placing us at an important period of growth and change.

ISCSLP 2006 received a surprisingly large number of paper submissions. I would like to start by expressing my thanks to everyone who submitted their research work. This year's symposium was made possible by the hard work of many people. My deepest thanks to all the chairs, especially, the Technical Chairs, Qiang Huo and Bin Ma, together with the Special Session Chairs, who put an immense amount of quality work into the paper review and preparation of the technical program. I am also grateful to the Publication Chair, Eng-Siong Chng, who did a great job coordinating the publication of our conference proceedings (selected papers) in the Springer LNAI series for the first time.

I would also like to express my gratitude and appreciation to the Steering Committee, which has led ISCSLP to what it is today, for their invaluable advice at various stages of our development; to the members of the Organizing Committee, who made this event possible in Singapore; to the enthusiasts who contributed their ideas in the committee meetings in Lisbon, Toulouse and Pittsburgh; to all the sponsors for their generous support of our CSLP undertakings; and to the invited speakers as well as all the participants.

ISCSLP 2006 was unique in many ways, yet we continue the symposium's heritage of staying close to tradition. This year, we presented a scientific program of cutting-edge research in CSLP in the form of paper presentations, posters and demonstrations, supported by tutorials, workshops, and as always, good food. The program continues to show a healthy balance of a high standard of selection coupled with wide participation from the scientific community.

December 2006

Haizhou Li
General Chair, ISCSLP 2006

Preface

This book contains a selection of refereed papers presented at the Fifth International Symposium on Chinese Spoken Language Processing (ISCSLP 2006), held in Singapore during December 13-16, 2006. ISCSLP is a biennial conference for scientists, researchers, and practitioners to report and discuss the latest progress in all scientific and technological aspects of Chinese spoken language processing (CSLP). The previous four conferences were held in Singapore (ISCSLP 1998), Beijing (ISCSLP 2000), Taipei (ISCSLP 2002) and Hong Kong (ISCSLP 2004), respectively. Since its inception, ISCSLP has become the world's largest and most comprehensive technical conference focused on Chinese spoken language processing and its applications.

This year, a total number of 183 full paper submissions were received from 18 countries and regions, including mainland China, Taiwan, Hong Kong, Singapore, Japan, India, Korea, USA, Australia, Spain, Finland, Belgium, Czech Republic, Germany, Iran, Netherlands, Thailand, and Vietnam. Each paper was reviewed rigorously by at least two reviewers, thanks to the help offered by all members of the Technical Program Committee (TC), several members of the Organizing Committee (OC), and some additional reviewers. Detailed comments from the reviewers were given to authors for their consideration in revising the final manuscripts. Given the good quality of submitted papers, the TC and OC worked very hard to place as many of these good papers into the technical program as possible. As a result, 74 high-quality papers were selected to be included in this book. They are arranged in the following sections:

- Invited plenary talks and tutorials
- Topics in speech science
- Speech analysis
- Speech synthesis and generation
- Speech enhancement
- Acoustic modeling for automatic speech recognition
- Robust speech recognition
- Speech adaptation/normalization
- General topics in speech recognition
- Large vocabulary continuous speech recognition
- Multilingual recognition and identification
- Speaker recognition and characterization
- Spoken language understanding
- Human language acquisition, development and learning
- Spoken and multimodal dialog systems
- Speech data mining and document retrieval
- Machine translation of speech
- Spoken language resources and annotation

The conference program featured four invited plenary talks, two tutorials, four special sessions and a number of regular oral and poster sessions covering a wide range of areas related to CSLP. The program was further enhanced by a co-located event, “Affective Sciences Workshop,” jointly organized by the Swiss House Singapore, the Swiss Centre (NCCR) for Affective Sciences and ISCSLP 2006.

On behalf of the Organizing and Technical Program Committees, we would like to take this opportunity to express our deep gratitude to all the invited plenary speakers (Stephanie Seneff, Klaus R. Scherer, Franz Josef Och, and Tat-Seng Chua) and tutorial speakers (Keiichi Tokuda and Hang Li) for accepting our invitation to give talks at ISCSLP 2006. Helen Meng did an excellent job in organizing the plenary and tutorial sessions. Special thanks are due to the organizers of the special sessions (Chiu-Yu Tseng, Thomas Fang Zheng, Hsin-Min Wang, and Jianhua Tao), for their contributions in making ISCSLP 2006 an even more interesting and valuable event. We also want to thank those who helped review papers, and members of the International Advisory Committee for their advice. Last but not least, a special “thank you” has to go to the authors of papers and all the participants of the event for their support of ISCSLP.

We hope that the fruitful technical interactions made possible by this conference and the papers published in this book will benefit your research and development efforts in CSLP.

December 2006

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