The 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing

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Preface: General Chair

It was fifteen years ago when ACL first came to Asia in 2000. The conference in Hong Kong was a very excited one and attracted lots of people. It was a great opportunity for a number of Asian NLP researchers to meet face-to-face in such a large scale meeting. Establishment of AFNLP (Asian Federation of Natural Language Processing) was discussed soon after this wonderful event, and then AFNLP started IJCNLP (the International Joint Conference of Natural Language Processing) as a biennial flagship conference of AFNLP. ACL's three year regional rotation and IJCNLP's two year cycle meet every six years, and this is the second joint ACL-IJCNLP conference following the first held in Singapore in 2009. ACL meetings in Asia and IJNCLPs are now a propelling force of NLP research in Asian regions, and provide valuable experiences especially to young researchers and students who first attend this size of a big conference.

The success of ACL-IJCNLP owes a great deal to the hard work and dedication of many people. I would like to thank all of them for their time and contribution to this joint ACL-AFNLP conference.

Priscilla Rasmussen (the ACL Business Manager), Gertjan van Noord (ACL Past President), Chris Manning (ACL President), Graeme Hirst (ACL Treasurer), Dragomir Radev (ACL Secretary), Keh-Yih Su (AFNLP Past President), Fam-Fai Wong (AFNLP President), all other ACL and AFNLP Executive Committee members and ACL-AFNLP Conference Coordinating Committee members (forgive me for not listing all their names) have always been very helpful and guided me anytime I missed something or was behind the schedule, and given me appropriate advice. Without their help, I could not fulfill even half my duty.

I was very lucky to have a wonderful team of chairs, who have done a fantastic job for leading this conference to an invaluable one. I would like to express my deepest gratitude to Michael Strube and Chengqing Zong (Program Committee Co-Chairs), Le Sun and Yang Liu (Local Arrangement Co-Chairs), Hang Li and Sebastian Riedel (Workshop Co-Chairs), Kevin Duh and Eneko Agirre (Tutorial Co-Chairs), Hsin-His Chen and Katja Markert (System Demonstration Co-Chairs), Wanxiang Che and Guodong Zhou (Publications Co-Chairs), Stephan Oepen, Chin-Yew Lin and Emily Bender (Student Research Workshop Faculty Advisors), Kuan-Yu Chen, Angelina Ivanova and Ellie Pavlick (Student Research Workshop Co-Chairs), Francis Bond (Mentoring Chair), Xianpei Han and Kang Liu (Publicity Co-Chairs), Zhiyuan Liu (Webmaster), and all the team members of the Local Organizing Committee. Thanks to their dedicated efforts, we now have a great conference consisting of the Presidential Address (by Chris Manning), two Keynote Addresses (by Marti Hearst and Jiawei Han), 173 long and 145 short papers, 12 TACL papers, 7 Student Research Workshop papers, 25 system demonstrations, 8 tutorials, 15 workshops, one collocated conference (CoNLL-2015), and a not yet known Lifetime Achievement Awardee's speech.

I am also grateful to our sponsors for their generous contributions. ACL-IJCNLP-2015 is supported by six Platinum Sponsors (CreditEase, Baidu, Tencent, Alibaba Group, SAMSUNG, and Microsoft), four Gold Sponsors (Google, Facebook, SinoVoice, and Huawei), three Silver Sponsors (Nuance, Amazon, and Sogou), one Bronze Sponsor (Yandex), one Oversea Student Fellowship Sponsor (Baobab), and one Best Paper Sponsor (IBM). I would express special thanks to Yiqun Liu (Local Sponsorship Chair) and all members of the International Sponsorship Committee (Ting Liu, Hideto Kazawa, Asli Celikyilmaz, Julia Hochenmaier, and Alessandro Moschitti).

Finally, I would like to thank two keynote speakers, the area chairs of the main conference, the workshop organizers, the tutorial presenters, the authors of main conference and demo papers, the reviewers for their contribution, and all the attendees for participation. I hope everyone have a great time and enjoy this conference.

ACL-IJCNLP 2015 General Chair
Yuji Matsumoto
Nara Institute of Science and Technology

Preface: Program Committee Co-Chairs

Welcome to the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP)! This year ACL-IJCNLP received 692 long paper submissions and 648 short paper submissions which sets a new record for ACL for both long and short papers! We are pleased to observe that our community continues to grow. Of the long papers, 173 were accepted for presentation at ACL-IJCNLP – 105 as oral and 68 as poster presentations. 145 short papers were accepted – 50 as oral and 95 as poster presentations. In addition, ACL-IJCNLP also features 12 presentations of papers accepted in the Transactions of the Association for Computational Linguistics (TACL).

The submissions were reviewed under different categories and using different review forms for empirical/data-driven, theoretical, applications/tools, resources/evaluation, and survey papers. This year we introduced the item "MENTORING" to the review form to indicate whether a paper needs the help of a mentor in its writing, organization or presentation. For short papers, following up on last year's successful experiences, we also welcomed submissions describing negative results. We are glad to see that the community is becoming more open towards negative results so that such papers have the chance to be published, so that other researchers do not fall in the same trap.

We view posters as an integral part of ACL-IJCNLP. Half of the papers have been accepted as posters. Hence, we spent a great deal of time to ensure that the poster session will be a good experience for poster presenters and their audience. Following last year's exciting poster session, we also organized the posters in two large poster sessions to accommodate the high-quality submissions accepted in poster presentation format. We hope attendees and authors will benefit from this additional time to present and have more time to discuss with each other.

ACL-IJCNLP 2015 will have two distinguished invited speakers. Marti Hearst (professor at UC Berkeley in the School of Information and EECS) and Jiawei Han (Abel Bliss Professor at University of Illinois at Urbana-Champaign). We are grateful that they accepted our invitation.

There are many individuals to thank for their contributions to ACL-IJCNLP 2015. We would like to thank the 37 area chairs for their hard work on recruiting reviewers, leading the discussion process, and carefully ranking the submissions. We would also like to thank the 749 primary and the 137 secondary reviewers on whose efforts we depended to select high-quality and timely scientific work. This year we specifically acknowledge around 18.2% of the reviewers who went the extra mile and provided extremely helpful reviews (their names are marked with a * in the organization section of the proceedings). The ACL coordinating committee members, including Dragomir Radev, Graeme Hirst, Jian Su, and Gertjan van Noord were invaluable on various issues relating to the organization. We would like to thank the prior conference chairs Kristina Toutanova and Hua Wu and their predecessors for their advice. We are very grateful for the guidance and support of the general chair Yuji Matsumoto, to the ACL Business Manager Priscilla Rasmussen who knew practically everything, to the local chairs Le Sun and Yang Liu, the publication chairs Wanxiang Che and Guodong Zhou, and webmaster Zhiyuan Liu. We would also like to thank Jiajun Zhang who helped with reviewer assignment and numerous other tasks. Rich Gerber and Paolo Gai from Softconf were extremely responsive to all of our requests, and we are grateful for that.

We are indebted to the best paper award committee which consisted of Eneko Agirre, Tim Baldwin, Philipp Koehn, Joakim Nivre, and Yue Zhang. They read the candidate papers, ranked them and provided comments on a very short notice.

We hope you will enjoy ACL-IJCNLP 2015 in Beijing!

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Invited Talk: Can Natural Language Processing Become Natural LanguageCoaching?

Marti A. Hearst

School of Information and EECS, UC Berkeley

Abstract

How we teach and learn is undergoing a revolution, due to changes in technology and connectivity. Education may be one of the best application areas for advanced NLP techniques, and NLP researchers have much to contribute to this problem, especially in the areas of learning to write, mastery learning, and peer learning. In this talk I consider what happens when we convert natural language processors into natural language coaches.

Biography

Marti Hearst is a Professor at UC Berkeley in the School of Information and EECS. She received her PhD in CS from UC Berkeley in 1994 and was a member of the research staff at Xerox PARC form 1994-1997. Her research is in computational linguistics, search user interfaces, information visualization, and improving learning at scale. Her NLP work includes automatic acquisition of hypernym relations ("Hearst Patterns"), TextTiling discourse segmentation, abbreviation recognition, and multiword semantic relations. She wrote the book "Search User Interfaces" (Cambridge) in 2009, co-founded the ACM Conference on Learning at Scale in 2014, and was named an ACM Fellow in 2013. She has received four student-initiated Excellence in Teaching Awards, including in 2014 and 2015.

Invited Talk: Construction and Mining of Heterogeneous Information Networks from Text Data

Jiawei Han

Department of Computer Science, University of Illinois at Urbana-Champaign

Abstract

The real-world data are unstructured but interconnected. The majority of such data is in the form of natural language text. One of the grand challenges is to turn such massive data into actionable knowledge. In this talk, we present our vision on how to turn massive unstructured, text-rich, but interconnected data into knowledge. We propose a data-to-network-to-knowledge (i.e., D2N2K) paradigm, which is to first turn data into relatively structured heterogeneous information networks, and then mine such text-rich and structure-rich heterogeneous networks to generate useful knowledge. We show why such a paradigm represents a promising direction and present some recent progress on the development of effective methods for construction and mining of structured heterogeneous information networks from text data.

Biography

Jiawei Han is Abel Bliss Professor in the Department of Computer Science, University of Illinois at Urbana-Champaign. He has been researching into data mining, information network analysis, database systems, and data warehousing, with over 600 journal and conference publications. He has chaired or served on many program committees of international conferences, including PC co-chair for KDD, SDM, and ICDM conferences, and Americas Coordinator for VLDB conferences. He also served as the founding Editor-In-Chief of ACM Transactions on Knowledge Discovery from Data and is serving as the Director of Information Network Academic Research Center supported by U.S. Army Research Lab, and Director of KnowEnG, an NIH funded Center of Excellence in Big Data Computing. He is a Fellow of ACM and Fellow of IEEE, and received 2004 ACM SIGKDD Innovations Award, 2005 IEEE Computer Society Technical Achievement Award, 2009 IEEE Computer Society Wallace McDowell Award, and 2011 Daniel C. Drucker Eminent Faculty Award at UIUC. His co-authored book "Data Mining: Concepts and Techniques" has been adopted as a textbook popularly worldwide.

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Can Natural Language Processing Become Natural Language Coaching?
Marti A. Hearst

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Anders Søgaard, Željko Agić, Héctor Martínez Alonso, Barbara Plank, Bernd Bohnet and Anders Johannsen

Multi-Task Learning for Multiple Language Translation
Daxiang Dong, Hua Wu, Wei He, Dianhai Yu and Haifeng Wang

Wednesday, July 29 (continued)

Session 9B: 14:35–15:25 Word Segmentation

Accurate Linear-Time Chinese Word Segmentation via Embedding Matching
Jianqiang Ma and Erhard Hinrichs

Gated Recursive Neural Network for Chinese Word Segmentation
Xinchi Chen, Xipeng Qiu, Chenxi Zhu and Xuanjing Huang

Session 9C: 14:35–15:25 Morphology, Phonology

[TACL] An Unsupervised Method for Uncovering Morphological Chains
Karthik Narasimhan, Regina Barzilay, Tommi Jaakkola

[TACL] Modeling Word Forms Using Latent Underlying Morphs and Phonology
Ryan Cotterell, Nanyun Peng, Jason Eisner

Session 9D: 14:35–15:25 NLP for the Web: Twitter

An analysis of the user occupational class through Twitter content
Daniel Preoţiuc-Pietro, Vasileios Lampos and Nikolaos Aletras

Tracking unbounded Topic Streams
Dominik Wurzer, Victor Lavrenko and Miles Osborne

Wednesday, July 29 (continued)

Session 9E: 14:35–15:25 POS Tagging

Inducing Word and Part-of-Speech with Pitman-Yor Hidden Semi-Markov Models
Kei Uchiumi, Hiroshi Tsukahara and Daichi Mochihashi

Coupled Sequence Labeling on Heterogeneous Annotations: POS Tagging as a Case Study
Zhenghua Li, Jiayuan Chao, Min Zhang and Wenliang Chen

15:25–15:55 Coffee Break

Session BP: 15:55–17:10 Best Paper Session

AutoExtend: Extending Word Embeddings to Embeddings for Synsets and Lexemes
Sascha Rothe and Hinrich Schütze

Improving Evaluation of Machine Translation Quality Estimation
Yvette Graham

17:10–18:30 Lifetime Achievement Award

18:30–19:00 Closing Session

Day Date

Session Ses Code: Ses Time–Ses End Time Ses Title

Gen *Time–Gen End Time Gen Title*
Gen Presenter