HLT/EMNLP 2005

Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing

Proceedings of the Conference

6-8 October 2005
Vancouver, British Columbia, Canada

Production and Manufactured by
Omnipress Inc.
Post Office Box 7214
Madison, WI 53707-7214

The conference organizers are grateful to the following sponsors for their generous support.

Silver Sponsor:

Bronze Sponsors:

Sponsor of Best Student Paper Award:

*This year's HLT/EMNLP conference is co-sponsored by **ACL SIGDAT**.*

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL)
3 Landmark Center
East Stroudsburg, PA 18301
USA
Tel: +1-570-476-8006
Fax: +1-570-476-0860
acl@aclweb.org

Preface: General Chair

In 2005, the Human Language Technology Conference (HLT) and the Conference on Empirical Methods in Natural Language Processing (EMNLP) were held together as a joint conference for the first time. The conference was co-sponsored by the organization traditionally behind HLT, the Human Language Technology Advisory Board, and the organization traditionally behind EMNLP, SIGDAT: The Association for Computational Linguistics (ACL) Special Interest Group on linguistic data and corpus-based approaches to natural-language processing. The joint conference was held in Vancouver, B.C., Canada on October 6–8, co-located with the 2005 Document Understanding Conference (DUC) and the 9th International Workshop on Parsing Technologies (IWPT).

In the HLT tradition, the conference especially encouraged submissions involving synergistic combinations of language technologies from the sometimes disjoint areas of natural-language processing, speech processing, and information retrieval. To encourage such cross-fertilization, each of the major chair positions were filled by three people, one from each of these research areas.

First, I would like to thank the Program Chairs, **Chris Brew**, **Lee-Feng Chien**, and **Katrin Kirchhoff**, for handling the unexpectedly large number of submissions under a very tight schedule and putting together an excellent program for the conference. Please see their preface for further information on the submissions, the program committee, and the conference program.

Priscilla Rasmussen deserves our enduring gratitude for agreeing to serve as a remote Local Arrangements Chair, and gracefully handling the multitude of responsibilities that this important position requires.

Joyce Chai did an excellent job as Publications Chair and managing the myriad of details required to assemble this proceedings in the small amount of time allotted for this important step. Thanks also go to **Chen Zhang** and **Shaolin Qu** for helping with the proceedings and to **Jason Eisner** and **Philipp Koehn** for making the publication software available and providing many good suggestions.

Donna Byron, **Anand Venkataraman**, and **Dell Zhang** served as Demonstrations Chairs and carefully reviewed 31 proposals to select 20 interesting demos that were a great addition to the conference program.

David Elworthy and **Marius Pasca** served in the important role of Sponsorship and Exhibits Chairs and helped raise important corporate financial support for the conference. Thanks are also due to our corporate sponsors (listed on the previous page) for their gracious support.

Srinivas Bangalore, **Zak Shafran**, and **Hsin-Min Wang** served as Publicity Chairs and provided important support in advertising the conference to the NLP, speech, and IR communities.

Anoop Sarkar and **Fred Popowich** served as Local Preparation and Student Volunteer Coordinators, providing important local support in Vancouver and assembling and managing a team of student volunteers that provided important services at the conference. The students volunteers themselves also deserve our gratitude.

Yuk Wah Wong, **Razvan Bunescu**, **Ruifang Ge**, and **Rohit Kate** dedicated significant effort as

Webmasters, putting together and constantly updating the conference web site.

Graeme Hirst provided important support and advice as Chair of the HLT Board, particularly in the site selection and initial formation of the conference committee. The members of the HLT Board, **Karen Kukich**, **Donna Harman**, **Mary Harper**, **Julia Hirschberg**, **Sanjeev Khudanpur**, **Joseph Olive**, **John Prange**, **Drago Radev**, and **Ellen Riloff**, also provided important support and advice.

Ken Church also provided important support and advice as chair of SIGDAT in the initial formation of the conference committee and continuing advice on conference organization.

Also thanks to **Donna Harman** for organizing the co-located DUC meeting and **Harry Bunt**, **Rob Malouf** and **Alon Lavie** for organizing the co-located IWPT meeting.

Finally, I would to thank all of the authors, demo presenters, and conference attendees for helping to make the first joint HLT/EMNLP meeting a successful and engaging scientific venue!

Raymond J. Mooney
HLT/EMNLP-05 General Chair
August 24, 2005

Preface: Program Co-chairs

It is our pleasure to welcome you to HLT/EMNLP 2005 in the beautiful city of Vancouver. For the third time, HLT is being held in combination with a conference sponsored by an ACL organization, thus continuing the tradition of bringing together researchers from three different communities: natural language processing, information retrieval, and speech processing. During the last few years, these fields have experienced a growing trend towards interaction across their traditional boundaries, as evidenced by the exchange of approaches and methodologies, and the development of large-scale systems integrating speech and language processing as well as information retrieval components.

We hope that this conference will further encourage this trend. In order to facilitate the interaction between researchers from different fields, all papers have been organized into a single track rather than two or three different tracks. We are also pleased to welcome three invited speakers whose work spans several areas in the HLT/EMNLP field: Ellen Vorhees, Larry Hunter, and Sanjeev Khudanpur. We would like to thank them again for accepting our invitation and for their exciting and stimulating contributions to our program.

The joint organization of HLT and EMNLP generated an unusually large load of papers. A total of 402 submissions were received, of which 127 were accepted, resulting in an acceptance rate of 31.6%. We would like to thank our technical chairs, who did an excellent job at selecting the program committee and managed to handle the large number of submissions efficiently and on time. Our thanks also go to the program committee members for their expert reviews. We are particularly grateful to those PC members who were willing to take on additional reviews beyond their original assignments.

For the demonstrations track, thirty-one submissions were received, twenty of which were accepted. Donna Byron, Anand Venkataramanan and Dell Zhang did a superb job at managing the demo submissions and reviews, and we are looking forward to a very interesting session.

We are please to announce that, for the first time, a prize for the best student paper will be awarded at this year's conference. We are especially grateful to IBM for sponsoring this award – educating future generations of researchers in our community is of prime importance, and the public acknowledgment of students' research achievements is a significant contribution towards this goal.

Finally, we would like to thank our general chair, Ray Mooney, for his help and guidance, and all organizers, PC members, technical chairs, authors, and attendees for their efforts and contributions. We wish you a pleasant time at HLT/EMNLP 2005!

Chris Brew, Lee-Feng Chien, and Katrin Kirchhoff
Program Co-chairs
August 24, 2005

Conference Organizers

General Chair

Raymond J. Mooney, The University of Texas at Austin

Program Chairs

Chris Brew, The Ohio State University
Lee-Feng Chien, Academia Sinica
Katrin Kirchhoff, University of Washington

Demonstrations Chairs

Donna Byron, The Ohio State University
Anand Venkataraman, SRI International
Dell Zhang, Birkbeck, University of London

Publications Chair

Joyce Chai, Michigan State University

Publicity Chairs

Srinivas Bangalore, AT&T Labs - Research
Zak Shafran, Johns Hopkins University
Hsin-Min Wang, Academia Sinica

Sponsorship and Exhibits Chairs

Marius Pasca, Google
David Elworthy, Google

Local Arrangements Chair

Priscilla Rasmussen, Assoc. for Computational Linguistics

Local Preparation and Student Volunteer Coordinators

Fred Popowich, Simon Fraser University
Anoop Sarkar, Simon Fraser University

Webmasters

Yuk Wah Wong, The University of Texas at Austin
Razvan Bunescu, The University of Texas at Austin
Ruifang Ge, The University of Texas at Austin
Rohit Kate, The University of Texas at Austin

Program Committee

Chairs

Chris Brew, The Ohio State University
Lee-Feng Chien, Academia Sinica
Katrin Kirchhoff, University of Washington

Area Chairs

Ricardo Baeza-Yates, University of Chile
Regina Barzilay, Massachusetts Institute of Technology
Jennifer Chu-Carroll, IBM T. J. Watson Research Center
Pascale Fung, Hong Kong University of Science and Technology
Timothy Hazen, Massachusetts Institute of Technology
Rebecca Hwa, University of Pittsburgh
Frank Keller, University of Edinburgh
Elizabeth D. Liddy, University of Syracuse
Dan Melamed, New York University
Helen Meng, Chinese University of Hong Kong
Mark-Jan Nederhof, University of Groningen
Hwee Tou Ng, National University of Singapore
Dan Roth, University of Illinois at Urbana/Champaign
Murat Saraclar, AT&T Labs - Research
Simone Teufel, University of Cambridge
Wayne Ward, University of Colorado
Janyce Wiebe, University of Pittsburgh
Cheng Xiang Zhai, University of Illinois at Urbana/Champaign
Ming Zhou, Microsoft Research Asia

Program Committee Members

Alex Acero (Microsoft Research), Gilles Adda (LIMSI/CNRS, France), Lars Ahrenberg (Linkoping University), Shlomo Argamon (Illinois Institute of Technology)

Michiel Bacchiani (IBM), Ricardo Baeza-Yates (ICREA-UPF & CWR/DCC-Univ. de Chile), Srinivas Bangalore (AT&T Labs - Research), Regina Barzilay (Massachusetts Institute of Technology), Frederic Bechet (LIA, University of Avignon, France), Jerome Bellegarda (Apple Computer), Dan Bikel (IBM Research), Patrick Blackburn (INRIA Lorraine, France), Johan Bos (University of Edinburgh), Antal van den Bosch (Tilburg University, Netherlands), Herve Bourlard (IDIAP Research Institute), Chris Brew (The Ohio State University), Ralf Brown (Carnegie Mellon University), Bill Byrne (The Johns Hopkins University), Donna Byron (The Ohio State University)

Jamie Callan (Carnegie Mellon University), Claire Cardie (Cornell University), Rolf Carlson (Royal Institute of Technology, Sweden), Xavier Carreras Perez (Universitat Politècnica de Catalunya), John Carroll (University of Sussex), Joyce Chai (Michigan State University), Soumen Chakrabarti

(IIT Bombay, India), Ciprian Chelba (Microsoft Research), Francine Chen (Palo Alto Research Center), John Chen (Columbia University), Stanley Chen (IBM T.J. Watson Research Center), David Chiang (University of Maryland), Lee-Feng Chien (Academia Sinica), Jennifer Chu-Carroll (IBM T. J. Watson Research Center), Grace Chung (Corporation For National Research Initiatives), Ken Church (Microsoft), Stephen Clark (Oxford University), Charlie Clarke (University of Waterloo), Michael Collins (Massachusetts Institute of Technology), Ann Copestake (University of Cambridge), Max Copperman, Mark Core (ISI, University of Southern California), Stephen Cox (University of East Anglia), Krzysztof Czuba (IBM T.J. Watson Research Center)

Walter Daelemans (University of Antwerp, Belgium), Ido Dagan (Bar Ilan University, Israel), Renato DeMori (University of Avignon), Mona Diab (Columbia University), Anne Diekema (Syracuse University), Barbara DiEugenio (University of Illinois, Chicago), Shona Douglas (AT&T Labs - Research), John Dowding (National Aeronautics and Space Administration), Amit Dubey (University of Edinburgh), Susan Dumais (Microsoft Research)

Michael Elhadad (Ben-Gurion University of the Negev), Noemie Elhadad (Columbia University), Hakan Erdogan (Sabanci University), Katrin Erk (Saarland University)

David Ferrucci (IBM T.J. Watson Research Center), Radu Florian (IBM Research), Eric Fosler-Lussier (The Ohio State University), George Foster (National Research Council, Canada), Pascale Fung (HLTC/HKUST), Sadaoki Furui (Tokyo Insitute of Technology)

Jianfeng Gao (Microsoft Research Asia), Fred Gey (University of California, Berkeley), Dan Gildea (University of Rochester), Roxana Girju (University of Illinois at Urbana/Champaign), Jade Goldstein (U.S. Department of Defense), Julio Gonzalo (UNED, Spain), Mark Greenwood (University of Sheffield), Greg Grefenstette (CEA, France), Ling Guan (Ryerson University, Toronto), Curry Guinn (University of North Carolina at Wilmington)

Nizar Habash (Columbia University), Udo Hahn (Freiburg University), Thomas Hain (University of Sheffield), Dilek Hakkani-Tur (AT&T Labs - Research), John Hale (Michigan State University), Hans van Halteren (Radboud University Nijmegen), Sanda Harabagiu (University of Texas, Dallas), Mary Harper (Purdue University), Mark Hasegawa-Johnson (University of Illinois, Urbana/Champaign), T. J. Hazen (Massachusetts Institute of Technology), James Henderson (Université de Genève), Julia Hirschberg (Columbia University), Graeme Hirst (University of Toronto, Canada), Julia Hockenmaier (University of Pennsylvania), Thomas Hofmann (Brown University), Ed Hovy (ISI, University of Southern California), David Hull (Clairvoyance Corp.), Rebecca Hwa (University of Pittsburgh)

Rukmini Iyer (Nuance Communications)

Donghong Ji (Institute for Infocomm Research, Singapore), Rong Jin (Michigan State University), Michael Johnston (AT&T Labs - Research), Pamela Jordan (University of Pittsburgh)

Min-Yen Kan (National University of Singapore), Tatsuya Kawahara (Kyoto University), Andy Kehler (University of California, San Diego), Frank Keller (University of Edinburgh), Stephan Kepser (Eberhard Karls Universität Tübingen, Germany), Katrin Kirchhoff (University of Washington), Dan Klein (University of California, Berkeley), Kevin Knight (ISI, University of Southern California), Philipp Koehn (University of Edinburgh), Geert-Jan Kruijff (Universität des Saar-

landes, Saarbrücken, Germany), Jonas Kuhn (The University of Texas at Austin), Roland Kuhn (NRC Institute for Information Technology), Shankar Kumar (Johns Hopkins University), Sadao Kurohashi (University of Tokyo, Japan)

Mirella Lapata (University of Edinburgh, UK), Alon Lavie (Carnegie Mellon University), Lin-Shan Lee (National Taiwan University), Oliver Lemon (Edinburgh University), Anton Leuski (University of Southern California), Roger Levy (Stanford University), Mingjing Li (Microsoft Research Asia), Xin Li (University of Illinois at Urbana/Champaign), Elizabeth D. Liddy (Syracuse University), Chin-Yew Lin (ISI, University of Southern California), Dekang Lin (Google), Ting Liu (Harbin Institute of Technology, China), Yang Liu (International Computer Science Institute. Berkeley), Karen Livescu (Massachusetts Institute of Technology), Xiaofei Lu (The Ohio State University), Yajuan Lu (Microsoft Research Asia)

Lidia Mangu (IBM T.J. Watson Research Center), Inderjeet Mani (Georgetown University), Christopher (Manning Stanford University), Daniel Marcu (ISI, University of Southern California), Katja Markert (University of Leeds, UK), Yuval Marom (Monash University), Lluís Màrquez i Villodre (Universitat Politècnica de Catalunya, Spain), Yuji Matsumoto (Nara Institute of Science and Technology, Japan), Andrew McCallum (University of Massachusetts), Diana McCarthy (University of Sussex, UK), Kathleen (McKeown Columbia University), Dan Melamed (New York University), Chris Mellish (University of Aberdeen), Helen Meng (Chinese University of Hong Kong), Rada Mihalcea (University of North Texas), Dan Moldovan (University of Texas, Dallas), Christof Monz (University of Maryland), Bob Moore (Microsoft Research), Tatsunori Mori (Yokohama National University), Sung Hyon Myaeng (Information and Communications University, Korea)

Shri Narayanan (University of Southern California), Mark-Jan Nederhof (University of Groningen), Hermann Ney (RWTH Aachen University), Hwee Tou Ng (National University of Singapore), Vincent Ng (University of Texas at Dallas), Grace Ngai (Hong Kong Polytechnic University), Jian-Yun Nie (University of Montreal), Cheng Niu (Cymfony Corp.), Eric Nyberg (Carnegie Mellon University)

Doug Oard (University of Maryland), Franz Och (Google), Kemal Oflazer (Sabanci University, Turkey), Els den Os (Radboud University Nijmegen), Miles Osborne (University of Edinburgh), Douglas O'Shaughnessy (INRS-Telecommunications)

Martha Palmer (University of Pennsylvania), Shimei Pan (IBM T. J. Watson Research Center), Patrick Pantel (ISI, University of Southern California), Kishore Papineni (IBM Research), Cecile Paris (CSIRO, Australia), Marius Pasca (Google), Bryan Pellom (University of Colorado), Gerald Penn (University of Toronto, Canada), Fernando Pereira (University of Pennsylvania), Michael Picheny (IBM T. J. Watson Research Center), Joe Picone (Mississippi State University), Roberto Pieraccini (IBM), Massimo Poesio (University of Essex), Fred Popowich (Simon Fraser University), John Prager (IBM Reserch), Harry Printz (Agile TV Corporation), Stephen Pulman (Oxford University), Vasin Punyakanok (University of Illinois at Urbana/Champaign)

Dragomir Radev (University of Michigan, Ann Arbor), Bhuvana Ramabhadran (IBM), Owen Rambow (Columbia University), Jason Rennie (Massachusetts Institute of Technology), Philip Resnik (University of Maryland), Christian Retoré (Université Bordeaux 1, France), Giuseppe Riccardi (AT&T Labs - Research), Steve Richardson (Microsoft Research), Frank Richter (Eber-

hard Karls Universität Tübingen, Germany), Stefan Riezler (Palo Alto Research Center), German Rigau (Universitat Politècnica de Catalunya, Spain), Ellen Riloff (University of Utah), Hae-Chang Rim (Korea University), Brian Roark (Oregon Health and Sciences University), Steve Robertson (Microsoft Research), Dan Roth (University of Illinois at Urbana/Champaign), Salim Roukos (IBM Research), Alex Rudnicky (Carnegie Mellon University)

Yoshinori Sagisaka (ATR/Waseda University), Mark Sanderson (University of Sheffield), Murat Saraclar (AT&T Labs - Research), Hinrich Schuetze (University of Stuttgart, Germany), Sabine Schulte im Walde (Universität des Saarlandes, Saarbrücken, Germany), Fabrizio Sebastiani (Italian National Council of Research, Italy), Frank Seide (Microsoft Research Asia), Stephanie Seneff (Massachusetts Institute of Technology), Jimi Shanahan (Clairvoyance Corp), Libin Shen (University of Pennsylvania), Ronnie Smith (East Carolina University), Frank Soong (Microsoft Research Asia), Karen Sparck Jones (University of Cambridge), Richard Sproat (University of Illinois, Urbana/Champaign), Dave Stallard (BBN Technologies), Mark Steedman (University of Edinburgh), Volker Steinbiss (Accipio Consulting), Amanda Stent (Stony Brook University), Suzanne Stevenson (University of Toronto), Michael Strube (EML Research), Tomek Strzalkowski (University at Albany), Keh-Yih Su (Behavior Design Corporation), Eiichiro (Sumita ATR), Stan Szpakowicz (University of Ottawa)

Joel Tetreault (University of Rochester), Simone Teufel (University of Cambridge), Christoph Tillmann (IBM Research), Tassos Tombros (Queen Mary, University of London), Kristina Toutanova (Stanford University), Gokhan Tur (AT&T Labs - Research)

Takehito Utsuro (Kyoto University)

Andreas Vlachos (Cambridge University), Stephan Vogel (Carnegie Mellon University), Ellen Voorhees (National Institute of Standards and Technology), Sarel van Vuuren (University of Colorado)

Chao Wang (Massachusetts Institute of Technology), Wei Wang (University of North Carolina at Chapel Hill), Ye-Yi Wang (Microsoft Research), Wayne Ward (University of Colorado), Taro Watanabe (NTT Communication Science Lab), Andy Way (Dublin City University), Bonnie Webber (University of Edinburgh), Ralph Weischedel (BBN Technologies), Jan Wiebe (University of Pittsburgh), Hugh Williams (Microsoft Corporation), Florian Wolf (University of Cambridge), Dekai Wu (Hong Kong University of Science and Technology), Xiaoyun Wu (Yahoo)

Fei Xia (IBM Research)

Scott Wentau Yih (Microsoft Research), Steve Young (University of Cambridge)

Hugo Zaragoza (Microsoft Research, Cambridge), Luke Zettlemoyer (Massachusetts Institute of Technology), Cheng Xiang Zhai (University of Illinois at Urbana/Champaign), Ming Zhou (Microsoft Research Asia), Dav Zimak (University of Illinois at Urbana/Champaign)

Table of Contents

Conference Program

Thursday, October 6, 2005

8:45–9:00 Opening Session

9:00–10:00 Invited Talk: Larry Hunter

10:00-10:30 Break

Session 1A: Anaphora and Information Structure

10:30–10:55 *Improving LSA-based Summarization with Anaphora Resolution*
Josef Steinberger, Mijail Kabadjov, Massimo Poesio and Olivia Sanchez-Graillet

10:55–11:20 *Data-driven Approaches for Information Structure Identification*
Oana Postolache, Ivana Kruijff-Korbayova and Geert-Jan Kruijff

11:20–11:45 *Using Semantic Relations to Refine Coreference Decisions*
Heng Ji, David Westbrook and Ralph Grishman

11:45–12:10 *On Coreference Resolution Performance Metrics*
Xiaoqiang Luo

Session 1B: Error Detection and Correction

10:30–10:55 *Improving Multilingual Summarization: Using Redundancy in the Input to Correct MT errors*
Advaith Siddharthan and Kathleen McKeown

10:55–11:20 *Error Detection Using Linguistic Features*
Yongmei Shi and Lina Zhou

11:20–11:45 *Semantic Similarity for Detecting Recognition Errors in Automatic Speech Transcripts*
Diana Inkpen and Alain Désilets

11:45–12:10 *Redundancy-based Correction of Automatically Extracted Facts*
Roman Yangarber and Lauri Jokipii

Thursday, October 6, 2005 (continued)

Session 1C: Word Alignment

10:30–10:55 *NeurAlign: Combining Word Alignments Using Neural Networks*
Necip Fazil Ayan, Bonnie J. Dorr and Christof Monz

10:55–11:20 *A Discriminative Matching Approach to Word Alignment*
Ben Taskar, Lacoste-Julien Simon and Klein Dan

11:20–11:45 *A Discriminative Framework for Bilingual Word Alignment*
Robert C. Moore

11:45–12:10 *A Maximum Entropy Word Aligner for Arabic-English Machine Translation*
Abraham Ittycheriah and Salim Roukos

12:10–2:00 Lunch

Session 2A: Topic Tracking and Entity Detection

2:00–2:25 *A Large-Scale Exploration of Effective Global Features for a Joint Entity Detection and Tracking Model*
Hal Daumé III and Daniel Marcu

2:25–2:50 *Novelty Detection: The TREC Experience*
Ian Soboroff and Donna Harman

2:50–3:15 *Tell Me What You Do and I'll Tell You What You Are: Learning Occupation-Related Activities for Biographies*
Elena Filatova and John Prager

3:15–3:40 *Using Names and Topics for New Event Detection*
Giridhar Kumaran and James Allan

Thursday, October 6, 2005 (continued)

Session 2B: Text Categorization and Learning

2:00–2:25 *Investigating Unsupervised Learning for Text Categorization Bootstrapping*
Alfio Gliozzo, Carlo Strapparava and Ido Dagan

2:25–2:50 *Speeding up Training with Tree Kernels for Node Relation Labeling*
Jun'ichi Kazama and Kentaro Torisawa

2:50–3:15 *Kernel-based Approach for Automatic Evaluation of Natural Language Generation Technologies: Application to Automatic Summarization*
Tsutomu Hirao, Manabu Okumura and Hideki Isozaki

3:15–3:40 *Discretization Based Learning for Information Retrieval*
Dmitri Roussinov and Weiguo Fan

Session 2C: Machine Translation

2:00–2:25 *Local Phrase Reordering Models for Statistical Machine Translation*
Shankar Kumar and William Byrne

2:25–2:50 *HMM Word and Phrase Alignment for Statistical Machine Translation*
Yonggang Deng and William Byrne

2:50–3:15 *Inner-Outer Bracket Models for Word Alignment using Hidden Blocks*
Bing Zhao, Niyu Ge and Kishore Papineni

3:15–3:40 *Alignment Link Projection Using Transformation-Based Learning*
Necip Fazil Ayan, Bonnie J. Dorr and Christof Monz

3:40-4:15 Break

Thursday, October 6, 2005 (continued)

Session 3A: Language Modeling

4:15–4:40 *Predicting Sentences using N-Gram Language Models*
Steffen Bickel, Peter Haider and Tobias Scheffer

4:40–5:05 *Training Neural Network Language Models on Very Large Corpora*
Holger Schwenk and Jean-Luc Gauvain

5:05–5:30 *Minimum Sample Risk Methods for Language Modeling*
Jianfeng Gao, Hao Yu, Wei Yuan and Peng Xu

Session 3B: Robust Dialogue Processing

4:15–4:40 *A Salience Driven Approach to Robust Input Interpretation in Multimodal Conversational Systems*
Joyce Y. Chai and Shaolin Qu

4:40–5:05 *Error Handling in the RavenClaw Dialog Management Architecture*
Dan Bohus and Alexander Rudnicky

5:05–5:30 *Effective Use of Prosody in Parsing Conversational Speech*
Jeremy G. Kahn, Matthew Lease, Eugene Charniak, Mark Johnson and Mari Ostendorf

Session 3C: Summarization

4:15–4:40 *Automatically Learning Cognitive Status for Multi-Document Summarization of Newswire*
Ani Nenkova, Advaith Siddharthan and Kathleen McKeown

4:40–5:05 *Bayesian Learning in Text Summarization*
Tadashi Nomoto

5:05–5:30 *Discourse Chunking and its Application to Sentence Compression*
Caroline Sporleder and Mirella Lapata

Friday, October 7, 2005

9:00–10:00 Invited Talk: Sanjeev Khudanpur

10:00-10:30 Break

Session 4A: Training and Adaptation

10:30–10:55 *A Comparative Study on Language Model Adaptation Techniques Using New Evaluation Metrics*
Hisami Suzuki and Jianfeng Gao

10:55–11:20 *PP-attachment Disambiguation using Large Context*
Marian Olteanu and Dan Moldovan

11:20–11:45 *Compiling Comp Ling: Weighted Dynamic Programming and the Dyna Language*
Jason Eisner, Eric Goldlust and Noah A. Smith

11:45–12:10 *Learning What to Talk about in Descriptive Games*
Hugo Zaragoza and Chi-Ho Li

Session 4B: Question Answering

10:30–10:55 *Using Question Series to Evaluate Question Answering System Effectiveness*
Ellen Voorhees

10:55–11:20 *Combining Deep Linguistics Analysis and Surface Pattern Learning: A Hybrid Approach to Chinese Definitional Question Answering*
Fuchun Peng, Ralph Weischedel, Ana Licuanan and Jinxi Xu

11:20–11:45 *Enhanced Answer Type Inference from Questions using Sequential Models*
Vijay Krishnan, Sujatha Das and Soumen Chakrabarti

11:45–12:10 *A Practically Unsupervised Learning Method to Identify Single-Snippet Answers to Definition Questions on the Web*
Ion Androutsopoulos and Dimitrios Galanis

Friday, October 7, 2005 (continued)

Session 4C: Opinion and Sentiment Analysis

10:30–10:55 *Collective Content Selection for Concept-to-Text Generation*
Regina Barzilay and Mirella Lapata

10:55–11:20 *Extracting Product Features and Opinions from Reviews*
Ana-Maria Popescu and Oren Etzioni

11:20–11:45 *Recognizing Contextual Polarity in Phrase-Level Sentiment Analysis*
Theresa Wilson, Janyce Wiebe and Paul Hoffmann

11:45–12:10 *Identifying Sources of Opinions with Conditional Random Fields and Extraction Patterns*
Yejin Choi, Claire Cardie, Ellen Riloff and Siddharth Patwardhan

12:10–2:00 Lunch

Session 5A: Textual Entailment and Inference

2:00–2:25 *Disambiguating Toponyms in News*
Eric Garbin and Inderjeet Mani

2:25–2:50 *A Semantic Approach to Recognizing Textual Entailment*
Marta Tatu and Dan Moldovan

2:50–3:15 *Detection of Entity Mentions Occuring in English and Chinese Text*
Kadri Hacioglu, Benjamin Douglas and Ying Chen

3:15–3:40 *Robust Textual Inference via Graph Matching*
Aria Haghighi, Andrew Ng and Christopher Manning

Friday, October 7, 2005 (continued)

Session 5B: Word Sense and Polysemy

2:00–2:25 *Bootstrapping Without the Boot*
Jason Eisner and Damianos Karakos

2:25–2:50 *Differentiating Homonymy and Polysemy in Information Retrieval*
Christopher Stokoe

2:50-3:15 *Unsupervised Large-Vocabulary Word Sense Disambiguation with Graph-based Algorithms for Sequence Data Labeling*
Rada Mihalcea

3:15–3:40 *Domain-Specific Sense Distributions and Predominant Sense Acquisition*
Rob Koeling, Diana McCarthy and John Carroll

Session 5C: Named Entity Recognition and Transliteration

2:00–2:25 *Chinese Named Entity Recognition with Multiple Features*
Youzheng Wu, Jun Zhao, Bo Xu and Hao Yu

2:25–2:50 *Cluster-specific Named Entity Transliteration*
Fei Huang

2:50–3:15 *Extracting Personal Names from Email: Applying Named Entity Recognition to Informal Text*
Einat Minkov, Richard C. Wang and William W. Cohen

3:15–3:40 *Matching Inconsistently Spelled Names in Automatic Speech Recognizer Output for Information Retrieval*
Hema Raghavan and James Allan

3:40-4:15 Break

Friday, October 7, 2005 (continued)

Session 6A: Sequence Models

4:15–4:40 *Part-of-Speech Tagging using Virtual Evidence and Negative Training*
Sheila M. Reynolds and Jeff A. Bilmes

4:40–5:05 *Bidirectional Inference with the Easiest-First Strategy for Tagging Sequence Data*
Yoshimasa Tsuruoka and Jun'ichi Tsujii

5:05–5:30 *Context-Based Morphological Disambiguation with Random Fields*
Noah A. Smith, David A. Smith and Roy W. Tromble

Session 6B: Large-Scale Systems

4:15–4:40 *Mining Key Phrase Translations from Web Corpora*
Fei Huang, Ying Zhang and Stephan Vogel

4:40–5:05 *Robust Named Entity Extraction from Large Spoken Archives*
Benoit Favre, Frédéric Bechet and Pascal Nocéra

5:05–5:30 *Mining Context Specific Similarity Relationships Using The World Wide Web*
Dmitri Roussinov, Leon J. Zhao and Weiguo Fan

Session 6C: Statistical Parsing

4:15–4:40 *Hidden-Variable Models for Discriminative Reranking*
Terry Koo and Michael Collins

4:40–5:05 *Disambiguation of Morphological Structure using a PCFG*
Helmut Schmid

5:05–5:30 *Non-Projective Dependency Parsing using Spanning Tree Algorithms*
Ryan McDonald, Fernando Pereira, Kiril Ribarov and Jan Hajic

Friday, October 7, 2005 (continued)

Reception and Posters (6:30-8:00)

Making Computers Laugh: Investigations in Automatic Humor Recognition
Rada Mihalcea and Carlo Strapparava

Optimizing to Arbitrary NLP Metrics using Ensemble Selection
Art Munson, Claire Cardie and Rich Caruana

Word Sense Disambiguation Using Sense Examples Automatically Acquired from a Second Language
Xinglong Wang and John Carroll

Using MONA for Querying Linguistic Treebanks
Stephan Kepser

KnowItNow: Fast, Scalable Information Extraction from the Web
Michael J. Cafarella, Doug Downey, Stephen Soderland and Oren Etzioni

A Cost-Benefit Analysis of Hybrid Phone-Manner Representations for ASR
Eric Fosler-Lussier and C. Anton Rytting

Emotions from Text: Machine Learning for Text-based Emotion Prediction
Cecilia Ovesdotter Alm, Dan Roth and Richard Sproat

Combining Multiple Forms of Evidence While Filtering
Yi Zhang and Jamie Callan

Handling Biographical Questions with Implicature
Donghui Feng and Eduard Hovy

The Use of Metadata, Web-derived Answer Patterns and Passage Context to Improve Reading Comprehension Performance
Yongping Du, Helen Meng, Xuanjing Huang and Lide Wu

Identifying Semantic Relations and Functional Properties of Human Verb Associations
Sabine Schulte im Walde and Alissa Melinger

Accurate Function Parsing
Paola Merlo and Gabriele Musillo

Friday, October 7, 2005 (continued)

Recognising Textual Entailment with Logical Inference
Johan Bos and Katja Markert

A Self-Learning Context-Aware Lemmatizer for German
Praharshana Perera and René Witte

A Robust Combination Strategy for Semantic Role Labeling
Lluís Màrquez, Mihai Surdeanu, Pere Comas and Jordi Turmo

A Methodology for Extrinsically Evaluating Information Extraction Performance
Michael Crystal, Alex Baron, Katherine Godfrey, Linnea Micciulla, Yvette Tenney and Ralph Weischedel

Multi-Lingual Coreference Resolution With Syntactic Features
Xiaoqiang Luo and Imed Zitouni

Analyzing Models for Semantic Role Assignment using Confusability
Katrin Erk and Sebastian Pado

Improving Statistical MT through Morphological Analysis
Sharon Goldwater and David McClosky

A Translation Model for Sentence Retrieval
Vanessa Murdock and W. Bruce Croft

Maximum Expected F-Measure Training of Logistic Regression Models
Martin Jansche

Evita: A Robust Event Recognizer For QA Systems
Roser Saurí, Robert Knippen, Marc Verhagen and James Pustejovsky

Using Sketches to Estimate Associations
Ping Li and Kenneth W. Church

Context and Learning in Novelty Detection
Barry Schiffman and Kathleen McKeown

Friday, October 7, 2005 (continued)

A Shortest Path Dependency Kernel for Relation Extraction
Razvan Bunescu and Raymond Mooney

Multi-way Relation Classification: Application to Protein-Protein Interactions
Barbara Rosario and Marti Hearst

BLANC: Learning Evaluation Metrics for MT
Lucian Lita, Monica Rogati and Alon Lavie

Composition of Conditional Random Fields for Transfer Learning
Charles Sutton and Andrew McCallum

Saturday, October 8, 2005

9:00–10:00 Invited Talk: Ellen Voorhees

10:00-10:30 Break

Session 7A: Machine Translation

10:30–10:55 *Translating with Non-contiguous Phrases*
Michel Simard, Nicola Cancedda, Bruno Cavestro, Marc Dymetman, Eric Gaussier, Cyril Goutte, Kenji Yamada, Philippe Langlais and Arne Mauser

10:55–11:20 *Word-Level Confidence Estimation for Machine Translation using Phrase-Based Translation Models*
Nicola Ueffing and Hermann Ney

11:20–11:45 *Word-Sense Disambiguation for Machine Translation*
David Vickrey, Luke Biewald, Marc Teyssier and Daphne Koller

11:45–12:10 *The Hiero Machine Translation System: Extensions, Evaluation, and Analysis*
David Chiang, Adam Lopez, Nitin Madnani, Christof Monz, Philip Resnik and Michael Subotin

Saturday, October 8, 2005 (continued)

Session 7B: Grammar and Parsing

10:30–10:55 *Comparing and Combining Finite-State and Context-Free Parsers*
Kristy Hollingshead, Seeger Fisher and Brian Roark

10:55–11:20 *Morphology and Reranking for the Statistical Parsing of Spanish*
Brooke Cowan and Michael Collins

11:20–11:45 *Some Computational Complexity Results for Synchronous Context-Free Grammars*
Giorgio Satta and Enoch Peserico

11:45–12:10 *Incremental LTAG Parsing*
Libin Shen and Aravind Joshi

Session 7C: Computational Psycholinguistics and Biomedical Language Processing

10:30–10:55 *Automatic Question Generation for Vocabulary Assessment*
Jonathan Brown, Gwen Frishkoff and Maxine Eskenazi

10:55–11:20 *Parallelism in Coordination as an Instance of Syntactic Priming: Evidence from Corpus-based Modeling*
Amit Dubey, Patrick Sturt and Frank Keller

11:20–11:45 *Using the Web as an Implicit Training Set: Application to Structural Ambiguity Resolution*
Preslav Nakov and Marti Hearst

11:45–12:10 *Paradigmatic Modifiability Statistics for the Extraction of Complex Multi-Word Terms*
Joachim Wermter and Udo Hahn

12:10-2:00 Lunch

Saturday, October 8, 2005 (continued)

Session 8A: Multilingual Approaches

2:00–2:25 *A Backoff Model for Bootstrapping Resources for Non-English Languages*
Chenhai Xi and Rebecca Hwa

2:25–2:50 *Cross-linguistic Projection of Role-Semantic Information*
Sebastian Pado and Mirella Lapata

2:50–3:15 *OCR Post-Processing for Low Density Languages*
Okan Kolak and Philip Resnik

3:15–3:40 *Inducing a Multilingual Dictionary from a Parallel Multitext in Related Languages*
Dmitriy Genzel

Session 8B: Semantic Roles and Relations

2:00–2:25 *Exploiting a Verb Lexicon in Automatic Semantic Role Labelling*
Robert Swier and Suzanne Stevenson

2:25–2:50 *A Semantic Scattering Model for the Automatic Interpretation of Genitives*
Dan Moldovan and Adriana Badulescu

2:50–3:15 *Measuring the Relative Compositionality of Verb-Noun (V-N) Collocations by Integrating Features*
Sriram Venkatapathy and Aravind Joshi

3:15–3:40 *A Semi-Supervised Feature Clustering Algorithm with Application to Word Sense Disambiguation*
Zheng-Yu Niu, Dong-Hong Ji and Chew Lim Tan

Saturday, October 8, 2005 (continued)

Session 8C: Question Answering

2:00–2:25 *Using Random Walks for Question-focused Sentence Retrieval*
Jahna Otterbacher, Gunes Erkan and Dragomir Radev

2:25–2:50 *Multi-Perspective Question Answering Using the OpQA Corpus*
Veselin Stoyanov, Claire Cardie and Janyce Wiebe

2:50–3:15 *Automatically Evaluating Answers to Definition Questions*
Jimmy Lin and Dina Demner-Fushman

3:15–3:40 *Integrating Linguistic Knowledge in Passage Retrieval for Question Answering*
Jörg Tiedemann

3:40-4:15 Break

Session 9A: Search

4:15–4:40 *Searching the Audio Notebook: Keyword Search in Recorded Conversation*
Peng Yu, Kaijiang Chen, Lie Lu and Frank Seide

4:40–5:05 *Learning a Spelling Error Model from Search Query Logs*
Farooq Ahmad and Grzegorz Kondrak

5:05–5:30 *Query Expansion with the Minimum User Feedback by Transductive Learning*
Masayuki Okabe, Kyoji Umemura and Seiji Yamada

Saturday, October 8, 2005 (continued)

Session 9B: Text Segmentation

4:15–4:40 *An Orthonormal Basis for Topic Segmentation in Tutorial Dialogue*
Andrew Olney and Zhiqiang Cai

4:40–5:05 *A Generalized Framework for Revealing Analogous Themes across Related Topics*
Zvika Marx, Ido Dagan and Eli Shamir

5:05–5:30 *Flexible Text Segmentation with Structured Multilabel Classification*
Ryan McDonald, Koby Crammer and Fernando Pereira

Session 9C: Dialog Systems

4:15–4:40 *The Vocal Joystick: A Voice-Based Human-Computer Interface for Individuals with Motor Impairments*
Jeff A. Bilmes, Xiao Li, Jonathan Malkin, Kelley Kilanski, Richard Wright, Katrin Kirchhoff, Amar Subramanya, Susumu Harada, James Landay, Patricia Dowden and Howard Chizeck

4:40–5:05 *Speech-based Information Retrieval System with Clarification Dialogue Strategy*
Misu Teruhisa and Kawahara Tatsuya

5:05–5:30 *Learning Mixed Initiative Dialog Strategies By Using Reinforcement Learning On Both Conversants*
Michael English and Peter Heeman