INLG 2008

Fifth International Natural Language Generation Conference

Proceedings of the Conference

Program Chairs:
Michael White, Crystal Nakatsu and David McDonald

Referring Expression Generation Challenge Chairs:
Anja Belz and Albert Gatt

June 12–14, 2008
Salt Fork, Ohio, USA

Sponsored by The Ohio State University Department of Linguistics
Endorsed by SIGGEN, the ACL Special Interest Group on Natural Language Generation

©2008 The Association for Computational Linguistics

Table of Contents

Preface vii

Conference Organization ix

Conference Program xi

Invited Talks

Prominence and Phrasing in Spoken Discourse Processing 1
Shari R. Speer, Kiwako Ito

Language, Embodiment and Social Intelligence 5
Matthew Stone

INLG Papers

Session 1: Summarization

Generating Textual Summaries of Bar Charts 7
Seniz Demir, Sandra Carberry, Kathleen McCoy

Using Spatial Reference Frames to Generate Grounded Textual Summaries of Georeferenced Data 16
Ross Turner, Somayajulu Sripada, Ehud Reiter, Ian Davy

Dependency Tree Based Sentence Compression 25
Katja Filippova, Michael Strube

Extractive vs. NLG-based Abstractive Summarization of Evaluative Text: The Effect of Corpus Controversiality 33
Giuseppe Carenini, Jackie C. K. Cheung

Session 2: Referring Expressions

Referring Expressions as Formulas of Description Logic 42
Carlos Areces, Alexander Koller, Kristina Striegnitz

Attribute Selection for Referring Expression Generation: New Algorithms and Evaluation Methods 50
Albert Gatt, Anja Belz

The Use of Spatial Relations in Referring Expression Generation 59
Jette Viethen, Robert Dale

Session 3: Psycholinguistics and Affect

Using Tactical NLG to Induce Affective States: Empirical Investigations 68
Ielka van der Sluis, Chris Mellish

Session 4: Realization

Practical Grammar-Based NLG from Examples 77
David DeVault, David Traum, Ron Artstein

Accurate and Robust LFG-Based Generation for Chinese 86
Yuqing Guo, Haifeng Wang, Josef van Genabith

Session 5: Embodied Conversational Agents

Automated Metrics That Agree With Human Judgements On Generated Output for an Embodied Conversational Agent 95
Mary Ellen Foster

Session 6: Content and Text Planning

Simple but effective feedback generation to tutor abstract problem solving 104
Xin Lu, Barbara Di Eugenio, Stellan Ohlsson, Davide Fossati

What's In a Message? Interpreting Geo-referenced Data for the Visually-impaired 113
Kavita Thomas, Yaji Sripada

Evolving Questions in Text Planning 121
Mick O'Donnell

Session 7: Evaluation

Generation of Output Style Variation in the SAMMIE Dialogue System 129
Ivana Kruijff-Korbayová, Ciprian Gerstenberger, Olga Kukina, Jan Schehl

Evaluating an Ontology-Driven WYSIWYM Interface 138
Feikje Hielkema, Chris Mellish, Peter Edwards

The Importance of Narrative and Other Lessons from an Evaluation of an NLG System that Summarises Clinical Data 147
Ehud Reiter, Albert Gatt, Francois Portet, Marian van der Meulen

INLG Posters

Building a Large-scale Commercial NLG System for an EMR 157
Mary Dee Harris

Degree of Abstraction in Referring Expression Generation and its Relation with the Construction of the Contrast Set 161
Raquel Hervás, Pablo Gervás

Parser-Based Retraining for Domain Adaptation of Probabilistic Generators 165
Deirdre Hogan, Jennifer Foster, Joachim Wagner, Josef van Genabith

Creation of a New Domain and Evaluation of Comparison Generation in a Natural Language Generation System 169
Matthew Marge, Amy Isard, Johanna Moore

Generating Baseball Summaries from Multiple Perspectives by Reordering Content 173
Alice Oh, Howard Shrobe

A Dynamic Programming Approach to Document Length Constraints 177
Keith Vander Linden

Referring Expression Generation Challenge Papers & Posters

Preface 181
Anja Belz, Albert Gatt

GREC

The GREC Challenge 2008: Overview and Evaluation Results 183
Anja Belz, Eric Kow, Jette Viethen and Albert Gatt

IS-G: The Comparison of Different Learning Techniques for the Selection of the Main Subject References 192
Bernd Bohnet

CNTS: Memory-Based Learning of Generating Repeated References 194
Iris Hendrickx, Walter Daelemans, Kim Luyckx, Roser Morante and Vincent Van Asch

OSU-2: Generating Referring Expressions with a Maximum Entropy Classifier 196
Emily Jamison and Dennis Mehay

TUNA Shared Tasks

The TUNA Challenge 2008: Overview and Evaluation Results 198
Albert Gatt, Anja Belz and Eric Kow

The Fingerprint of Human Referring Expressions and their Surface Realization with Graph Transducers (IS-FP, IS-GT, IS-FP-GT) 207
Bernd Bohnet

Referring Expression Generation Using Speaker-based Attribute Selection and Trainable Realization (ATTR) 211
Giuseppe Di Fabbrizio, Amanda J. Stent and Srinivas Bangalore

NIL-UCM: Most-Frequent-Value-First Attribute Selection and Best-Scoring-Choice Realization 215
Pablo Gervás, Raquel Hervás and Carlos León

USP-EACH Frequency-based Greedy Attribute Selection for Referring Expressions Generation 219
Diego Jesus de Lucena and Ivandré Paraboni

Referring Expression Generation Challenge 2008 DIT System Descriptions (DIT-FBI, DIT-TVAS, DIT-CBSR, DIT-RBR, DIT-FBI-CBSR, DIT-TVAS-RBR) 221
John D. Kelleher and Brian Mac Namee

OSU-GP: Attribute Selection Using Genetic Programming 225
Josh King

GRAPH: The Costs of Redundancy in Referring Expressions 227
Emiel Krahmer, Mariët Theune, Jette Viethen and Iris Hendrickx

JU-PTBSGRE: GRE Using Prefix Tree Based Structure 230
Sibabrata Paladhi and Sivaji Bandyopadhyay

TUNA Open Track

From TUNA Attribute Sets to Portuguese Text: a First Report 232
Daniel Bastos Pereira and Ivandré Paraboni

Author Index 235

Preface

We are pleased to introduce the technical program of the Fifth International Natural Language Generation Conference (INLG 2008), the Biennial Meeting of SIGGEN, the ACL Special Interest Group in Natural Language Generation. INLG is the leading international conference on research into natural language generation. It has been held in Sydney (Australia) in 2006, at Brockenhurst (UK) in 2004, in Harriman (New York, USA) in 2002, and in Mitzpe Ramon (Israel) in 2000. Prior to 2000, the INLG meetings were International Workshops, running every other year since 1984. The INLG conference provides a forum for the discussion, dissemination and archiving of research topics and results in the field of text generation. This year, INLG is being held immediately prior to the main ACL-08:HLT conference, on June 12–14, 2008, in southeastern Ohio, USA, at the Salt Fork Resort and Conference Center.

The INLG program consists of substantial, original, and previously unpublished results on all topics related to natural language generation. This year, as in previous years, each submission was reviewed by at least three members of an international program committee of leading researchers in the field, listed on the next page. We received 35 submissions (both full papers and poster papers) from all over the world, from which we accepted 17 as full papers and 7 as posters. One poster was subsequently retracted as unfortunately the authors could not find sponsorship to attend the conference.

This year, the program includes two invited talks, one by Kiwako Ito and Shari Speer (The Ohio State University, USA), entitled "Prominence and Phrasing in Spoken Discourse Processing," and one by Matthew Stone (Rutgers University, USA), entitled "Language, Embodiment and Social Intelligence." We are also excited to host a special session devoted to the Referring Expression Generation Challenge 2008, organized by Anja Belz (University of Brighton, UK) and Albert Gatt (University of Aberdeen, UK).

Our sincere thanks go to our invited speakers, the Referring Expression Generation Challenge organizers, all who submitted papers to INLG 2008, and to our program committee for their hard work. We would also like to thank the the SIGGEN board for their support and advice; Priscilla Rasmussen, the ACL Business manager, and Claudia Morettini, OSU Linguistics, for administrative support; Jody Croley Jones and Miles Oldenburg, OSU College of Humanities Web Services, for their help with the design and implementation of the web site; and the Salt Fork team, who have been very flexible in accommodating the event to our liking. Finally, we gratefully acknowledge the Ohio State Department of Linguistics for sponsoring two student volunteers, Emily Jamison and Dennis Mehay.

We welcome you to the conference and hope you will find it to be an enjoyable and productive experience!

Michael White, Crystal Nakatsu and David McDonald
INLG 2008 Organizers

Conference Organization

Program Chairs

Michael White, The Ohio State University, USA
Crystal Nakatsu, The Ohio State University, USA
David McDonald, BBN Technologies, USA

Referring Expression Generation Challenge Chairs

Anja Belz, University of Brighton, UK
Albert Gatt, University of Aberdeen, UK

Program Committee

John Bateman, Universität Bremen, Germany
Anja Belz, University of Brighton, UK
Kalina Bontcheva, University of Sheffield, UK
Stephan Busemann, DFKI, Germany
Charles Callaway, University of Edinburgh, UK
Giuseppe Carenini, University of British Columbia, Canada
Nathalie Colineau, CSIRO, Australia
Robert Dale, University of Macquarie, Australia
Hercules Dalianis, Stockholm University, Sweden
Laurence Danlos, Université Paris 7, France
Barbara Di Eugenio, University of Illinois at Chicago, USA
Philip Edmonds, Sharp Laboratories of Europe, UK
Noemie Elhadad, Columbia University, USA
Roger Evans, University of Brighton, UK
Claire Gardent, CNRS/LORIA, France
Michel Généreux, LIPN, France
Nancy Green, University of North Carolina Greensboro, USA
Markus Guhe, University of Edinburgh, UK
John Kelleher, Dublin Insitute of Technology, Ireland
Ivana Kruijff-Korbayova, Universität des Saarlandes, Germany
James Lester, North Carolina State University, US
Chris Mellish, University of Aberdeen, UK
Jon Oberlander, University of Edinburgh, UK
Stephan Oepen, University of Oslo, Norway
Cécile Paris, CSIRO ICT Centre, Australia
Paul Piwek, The Open University, UK
Rashmi Prasad, University of Pennsylvania, USA
David Reitter, University of Edinburgh, UK
Graeme Ritchie, University of Aberdeen, UK
James Shaw, The Thomson Corporation, USA
Amanda Stent, Stony Brook University, USA
Matthew Stone, Rutgers, USA
Mariet Theune, University of Twente, The Netherlands
Takenobu Tokunaga, Tokyo Institute of Technology, Japan

Kees van Deemter, University of Aberdeen, UK
Ielka van der Sluis, University of Aberdeen, UK
Sebastian Varges, University of Trento, Italy
Sandra Williams, The Open University, UK
Michael Zock, CNRS/LIF, France

Invited Speakers

Shari R. Speer, The Ohio State University, USA
Kiwako Ito, The Ohio State University, USA
Matthew Stone, Rutgers, USA

Conference Program

Thursday, June 12, 2008

12:00–1:15 Registration and Lunch

1:15–1:30 Opening Remarks

Session 1: Summarization

1:30–2:00 Generating Textual Summaries of Bar Charts
Seniz Demir, Sandra Carberry, Kathleen McCoy

2:00–2:30 Using Spatial Reference Frames to Generate Grounded Textual Summaries of Georeferenced Data
Ross Turner, Somayajulu Sripada, Ehud Reiter, Ian Davy

2:30–3:00 Dependency Tree Based Sentence Compression
Katja Filippova, Michael Strube

3:00–3:30 Extractive vs. NLG-based Abstractive Summarization of Evaluative Text: The Effect of Corpus Controversiality
Giuseppe Carenini, Jackie C. K. Cheung

3:30–4:00 Break

Session 2: Referring Expressions

4:00–4:30 Referring Expressions as Formulas of Description Logic
Carlos Areces, Alexander Koller, Kristina Striegnitz

4:30–5:00 Attribute Selection for Referring Expression Generation: New Algorithms and Evaluation Methods
Albert Gatt, Anja Belz

5:00–5:30 The Use of Spatial Relations in Referring Expression Generation
Jette Viethen, Robert Dale

6:15–7:45 Banquet

Friday, June 13, 2008

7:00–9:00 Breakfast

Session 3: Psycholinguistics and Affect

9:00–10:00 Prominence and Phrasing in Spoken Discourse Processing *(Invited Talk)*
Shari R. Speer, Kiwako Ito

10:00–10:30 Using Tactical NLG to Induce Affective States:
Empirical Investigations
Ielka van der Sluis, Chris Mellish

10:30–11:00 Break

Session 4: Realization

11:00–11:30 Practical Grammar-Based NLG from Examples
David DeVault, David Traum, Ron Artstein

11:30–12:00 Accurate and Robust LFG-Based Generation for Chinese
Yuqing Guo, Haifeng Wang, Josef van Genabith

12:00–1:00 Lunch

1:00–4:30 Activity Break

Referring Expression Generation Challenge

4:30–5:30 The GREC Challenge 2008: Overview and Evaluation Results
Anja Belz, Eric Kow, Jette Viethen and Albert Gatt

The TUNA Challenge 2008: Overview and Evaluation Results
Albert Gatt, Anja Belz and Eric Kow

Poster Session

5:30–7:00 INLG Posters

REG Challenge Posters

7:00–8:30 Dinner

Saturday, June 14, 2008

7:00–9:00 Breakfast

Session 5: Embodied Conversational Agents

9:00–10:00 Language, Embodiment and Social Intelligence *(Invited Talk)*
Matthew Stone

10:00–10:30 Automated Metrics That Agree With Human Judgements On Generated Output for an Embodied Conversational Agent
Mary Ellen Foster

10:30–11:00 Break

Session 6: Content and Text Planning

11:00–11:30 Simple but effective feedback generation to tutor abstract problem solving
Xin Lu, Barbara Di Eugenio, Stellan Ohlsson, Davide Fossati

11:30–12:00 What's In a Message? Interpreting Geo-referenced Data for the Visually-impaired
Kavita Thomas, Yaji Sripada

12:00–12:30 Evolving Questions in Text Planning
Mick O'Donnell

12:30–1:30 Lunch

Session 7: Evaluation

1:30–2:00 Generation of Output Style Variation in the SAMMIE Dialogue System
Ivana Kruijff-Korbayová, Ciprian Gerstenberger, Olga Kukina, Jan Schehl

2:00–2:30 Evaluating an Ontology-Driven WYSIWYM Interface
Feikje Hielkema, Chris Mellish, Peter Edwards

2:30–3:00 The Importance of Narrative and Other Lessons from an Evaluation of an NLG System that Summarises Clinical Data
Ehud Reiter, Albert Gatt, Francois Portet, Marian van der Meulen