

NAACL HLT 2010

**Workshop on
Speech and Language
Processing for
Assistive Technologies
(SLPAT)**

Proceedings of the Workshop

June 5, 2010
Los Angeles, California

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Introduction

We are pleased to bring you these Proceedings of the First Workshop on Speech and Language Processing for Assistive Technologies (SLPAT), held in Los Angeles, California, USA on June 5, 2010. We received 16 paper submissions, of which 8 were chosen for oral presentation and another 4 for poster presentation – all 12 papers are included in this volume. In addition, four demo proposals were accepted, and short abstracts of these demos are also included here.

This workshop was intended to bring together individuals from the Augmentative and Alternative Communication (AAC), Assistive Technologies (AT), Natural Language Processing (NLP) and Speech research communities, along with representatives from the AAC user community and companies working in this domain, to share research findings, and to discuss present and future challenges and the potential for collaboration and progress. While AAC is a particularly apt application area for speech and NLP technologies, we purposefully made the scope of the workshop broad enough to include assistive technologies as a whole, even those falling outside of AAC. While we encouraged work that validates methods with human experimental trials, we also accepted work on basic-level innovations, inspired by AT/AAC related problems. Thus we have aimed at broad inclusivity, which is also manifest in the diversity of our Program Committee.

We are very excited to have three invited speakers. Rick Hohn and Jan Staehely will speak on their experiences and perspectives as users of AAC technology. Also, Greg Leshner will give an invited talk entitled “Exploiting Web Content for Augmentative Communication”. We would like to thank all three for taking the time to participate and provide their collective insight to the workshop.

We would also like to thank the members of the Program Committee for completing their reviews promptly, and for providing useful feedback for deciding on the program and preparing the final versions of the papers. Thanks also to Priscilla Rasmussen, David Traum and Richard Sproat for assistance with logistics. Finally, thanks to the authors of the papers, for submitting such interesting and diverse work, and to the presenters of demos and commercial exhibitions.

Melanie Fried-Oken, Kathy McCoy and Brian Roark
Co-organizers of the workshop

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Workshop Program

Saturday, June 5, 2010

Morning Talks

- 8:45–8:50 Opening Remarks
- 8:50–9:15 *Using NLG and Sensors to Support Personal Narrative for Children with Complex Communication Needs*
Rolf Black, Joseph Reddington, Ehud Reiter, Nava Tintarev and Annalu Waller
- 9:15–9:40 *Automatic generation of conversational utterances and narrative for Augmentative and Alternative Communication: a prototype system*
Martin Dempster, Norman Alm and Ehud Reiter
- 9:40–10:30 Invited Speakers: *AAC from a user's perspective*
Rick Hohn and Jan Staehely
- 10:30–11:00 **Break**
- 11:00–11:25 *Implications of Pragmatic and Cognitive Theories on the Design of Utterance-Based AAC Systems*
Kathleen F. McCoy, Jan Bedrosian and Linda Hoag
- 11:25–11:50 *Scanning methods and language modeling for binary switch typing*
Brian Roark, Jacques de Villiers, Christopher Gibbons and Melanie Fried-Oken
- 11:50–2:10 Lunch and Poster/Demo/Exhibit Session

Posters

- A Platform for Automated Acoustic Analysis for Assistive Technology*
Suzanne Boyce, Harriet Fell, Joel MacAuslan and Lorin Wilde
- An Approach for Anonymous Spelling for Voter Write-Ins Using Speech Interaction*
Shanee Dawkins and Juan Gilbert
- Using Reinforcement Learning to Create Communication Channel Management Strategies for Diverse Users*
Rebecca Lunsford and Peter A. Heeman
- A Multimodal Vocabulary for Augmentative and Alternative Communication from Sound/Image Label Datasets*
Xiaojuan Ma, Christiane Fellbaum and Perry Cook

Saturday, June 5, 2010 (continued)

Demo Session: *Abstracts*

“How was School today...?” A Prototype System that Uses Environmental Sensors and NLG to Support Personal Narrative for Children with Complex Communication Needs
Rolf Black, Joseph Reddington, Ehud Reiter, Nava Tintarev and Annalu Waller

Interactive SIGHT Demo: Textual Summaries of Simple Bar Charts
Seniz Demir, David Oliver, Edward Schwartz, Stephanie Elzer, Sandra Carberry and Kathleen F. McCoy

Project Jumbo: Transcription as an Assistive Technology for Instant Messaging
Ira R. Forman and Allen K. Wilson

COMUNICA - A Voice Question Answering System for Portuguese
Rodrigo Wilkens, Aline Villavicencio, Leandro Wives, Daniel Muller, Fabio da Silva and Stanley Loh

Afternoon Talks

- 2:10–2:35 *State-Transition Interpolation and MAP Adaptation for HMM-based Dysarthric Speech Recognition*
Harsh Vardhan Sharma and Mark Hasegawa-Johnson
- 2:35–3:00 *Towards a noisy-channel model of dysarthria in speech recognition*
Frank Rudzicz
- 3:00–3:30 **Break**
- 3:30–3:55 *Collecting a Motion-Capture Corpus of American Sign Language for Data-Driven Generation Research*
Pengfei Lu and Matt Huenerfauth
- 3:55–4:20 *Automated Skimming System in Response to Questions for NonVisual Readers*
Debra Yarrington and Kathleen F. McCoy
- 4:20–5:20 Invited Talk: *Exploiting Web Content for Augmentative Communication*
Greg Lesher
- 5:20–5:30 Closing Remarks
- 5:30– Open Discussion on Future Directions