The Ninth Workshop on Speech and Language Processing for Assistive Technologies

Proceedings of the Workshop

May 27, 2022
Introduction

We are pleased to bring you the Proceedings of the Ninth Workshop on Speech and Language Processing for Assistive Technologies (SLPAT-2022), held virtually and in Dublin, Ireland on May 27, 2022. This workshop was intended to bring researchers from all areas of speech and language technology with a common interest in making everyday life more accessible for people facing physical, cognitive, sensory, emotional or developmental communication challenges. This workshop builds on eight previous such workshops co-located with conferences such as ACL, NAACL, EMNLP and Interspeech. It provides an opportunity for researchers, clinicians, and users of assistive technology to share research findings, to discuss present and future challenges, and to explore the potential for collaboration and progress. While Augmentative and Alternative Communication (AAC) is a particularly apt application area for speech and natural language processing technologies, we purposefully made the scope of the workshop broad enough to include assistive technologies (AT) as a whole, even those falling outside of AAC. Thus we have aimed at broad inclusivity, which is also manifest in the diversity of our program committee, authors, and invited speakers. We thank all the people who made this event possible.

Sarah Ebling, Emily Prud’hommeaux, and Preethi Vaidyanathan
Co-organizers of SLPAT-2022
Program Committee

Workshop Organizers
Sarah Ebling, University of Zurich
Emily Prud’hommeaux, Boston College
Preethi Vaidyanathan, EyeGaze, Inc.

Program Committee
Sara Candeias, Microsoft
Cecilia Ovesdotter Alm, Rochester Institute of Technology
Didier Schwab, Université Grenoble Alpes
Kay Chen Chen, University of New Hampshire, Durham
Roelant Ossewaarde, University of Groningen
Andre Coy, University Of the West Indies Mona
Andrew Fowler, Nuance Communications
Brian Roark, Google
Catherine Middag, Interuniversitair Micro-Electronica Centrum
Corinne Fredouille, Avignon University
Daniel Korzekwa, Amazon
Dean Neumann, Visionary Research Inc.
Enno Hermann, Idiap Research Institute
François Portet, Université Grenoble Alpes
Fraser Shein, Quillsoft Ltd.
Gayatri Venugopal, Symbiosis International, Deemed University
Gloria Gagliardi, University of Bologna
Jan Oliver Wülfing, University of Augsburg, Universität Augsburg
Kathleen Fraser, National Research Council Canada
Keith Vertanen, Michigan Technological University
Lani Mathew, Mar Baselios College of Engineering and Technology
Natalia Kuzminykh, University of Siena
Ornella Mich, Fondazione Bruno Kessler
Peter Ljunglöf, Chalmers University of Technology
Rachid Riad, Ecole Normale Supérieure
Rosalee Wolfe, College of Computing and Digital Media, DePaul University
Simon Judge, University of Sheffield
Zeerak Talat, Simon Fraser University
Zoey Liu, Boston College

Invited Speakers
Annalu Waller, University of Dundee
Raja Kushalnagar, Gallaudet University
# Table of Contents

**Design principles of an open-source language modeling microservice package for AAC text-entry applications**  
Brian Roark and Alexander Gutkin ........................................... 1

**ColorCode: A Bayesian Approach to Augmentative and Alternative Communication with Two Buttons**  
Matthew Daly ................................................................. 17

**A glimpse of assistive technology in daily life**  
Preethi Vaidyanathan, Angela J Wislon, Doug Sawyer, Amy Diego, Augustine Webster, Katerina Fassov, James Brinton and Jenn Rubenstein ......................................................... 24

**A comparison study on patient-psychologist voice diarization**  
Rachid Riad, Hadrien Titeux, Laurie Lemoine, Justine Montillot, Agnes Sliwinski, Jennifer Bagnou, Xuan Cao, Anne-Catherine Bachoud-Levi and Emmanuel Dupoux ....................... 30

**Producing Standard German Subtitles for Swiss German TV Content**  
Johanna Gerlach, Jonathan David Mutal and Bouillon Pierrette ............... 37

**Investigating the Medical Coverage of a Translation System into Pictographs for Patients with an Intellectual Disability**  
Magali Norrère, Vincent Vandeghinste, Thomas François and Bouillon Pierrette ............ 44

**On the Ethical Considerations of Text Simplification**  
Sian Gooding ................................................................. 50

**Applying the Stereotype Content Model to assess disability bias in popular pre-trained NLP models underlying AI-based assistive technologies**  
Brienna Herold, James Waller and Raja Kushalnagar ............................ 58

**CueBot: Cue-Controlled Response Generation for Assistive Interaction Usages**  
Shachi H. Kumar, Hsuan Su, Ramesh Manuvinakurike, Max Pinaroc, Sai Prasad, Saurav Sahay and Lama Nachman ................................................................. 66

**Challenges in assistive technology development for an endangered language: an Irish (Gaelic) perspective**  
Ailbhe Ni Chasaide, Emily Barnes, Neasa Ní Chiaráin, Ronan McGuirk, Oisín Morrin, Muireann Nic Corcráin and Julia Cummins ................................................................. 80
Program

Friday, May 27, 2022

09:00 - 09:30  Opening Remarks
09:30 - 10:30  Keynote 1 (Annalu Waller)
10:30 - 11:00  Break
11:00 - 12:30  Session 1

Applying the Stereotype Content Model to assess disability bias in popular pre-trained NLP models underlying AI-based assistive technologies
Brienna Herold, James Waller and Raja Kushalnagar

A comparison study on patient-psychologist voice diarization
Rachid Riad, Hadrien Titeux, Laurie Lemoine, Justine Montillot, Agnes Sliwinski, Jennifer Bagnou, Xuan Cao, Anne-Catherine Bachoud-Levi and Emmanuel Dupoux

ColorCode: A Bayesian Approach to Augmentative and Alternative Communication with Two Buttons
Matthew Daly

12:30 - 14:00  Break
14:00 - 14:15  Poster pitches
14:15 - 15:15  Poster session
15:15 - 16:00  Break
16:00 - 16:30  Session 2

On the Ethical Considerations of Text Simplification
Sian Gooding

16:30 - 17:30  Keynote 2 (Raja Kushalnagar)
17:30 - 18:00  Closing Remarks