LREC 2020 Workshop Language Resources and Evaluation Conference 11–16 May 2020

LREC2020 9th Workshop on the Representation and Processing of Sign Languages: Sign Language Resources in the Service of the Language Community, Technological Challenges and Application Perspectives

PROCEEDINGS

Eleni Efthimiou, Stavroula-Evita Fotinea, Thomas Hanke, Julie A. Hochgesang, Jette Kristoffersen, Johanna Mesch (eds.)

Proceedings of the LREC 2020 9th Workshop on the Representation and Processing of Sign Languages: Sign Language Resources in the Service of the Language Community, Technological Challenges and Application Perspectives

Edited by: Eleni Efthimiou, Stavroula-Evita Fotinea, Thomas Hanke, Julie A. Hochgesang, Jette Kristoffersen, and Johanna Mesch

ISBN: 979-10-95546-54-2 EAN: 9791095546542

For more information: European Language Resources Association (ELRA) 9 rue des Cordelières 75013, Paris France http://www.elra.info Email: lrec@elda.org

© European Language Resources Association (ELRA)

These workshop proceedings are licensed under a Creative Commons Attribution-NonCommercial 4.0 International License

Preface

This collection of papers stems from the 9th Workshop on the Representation and Processing of Sign Languages which was supposed to be held in May 2020 as a satellite to the Language Resources and Evaluation Conference in Marseille (France). While the workshop itself had to be postponed due to the Corona Virus, these proceedings go online as planned as a service to the community.

While there has been occasional attention to sign languages at the main LREC conference, the focus there is on spoken languages in their written and spoken forms. This series of workshops, however, offers a forum for researchers focussing on sign languages, especially on corpus data and corpus technology for sign languages.

This year's hot topic "Sign Language Resources in the Service of the Language Community, Technological Challenges and Application Services" strongly reminds us that our field should progress in a way that maximally benefits the language communities. It is also our obligation to explain where long-term research on major technological challenges may finally contribute to overwhelming barriers the communities are still confronted with in collaborative ways where preferably they as main stakeholders are leading the efforts themselves whenever possible.

The contributions composing this volume are presented in alphabetical order by the first author. For the reader's convenience, an author index is provided as well.

Once again, we would like to thank all members of the program committee who helped us tremendously by reviewing the submissions to the workshop within a very short timeframe!

Finally, we would like to point the reader to the proceedings of the previous workshops that form important resources in a growing field of research. They are all available online from http://www.sign-lang.uni-hamburg.de/lrec/

The site now also offers an author index across all workshops as well as DOIs for all workshop papers and posters. If you need BibTex data for all workshops, the site now has them per paper, per workshop, per author or all in one. Happy browsing!

The Editors

Organizers:

Eleni Efthimiou, Institute for Language and Speech Processing, Athens, Greece Stavroula-Evita Fotinea, Institute for Language and Speech Processing, Athens, Greece Thomas Hanke, Institute of German Sign Language, University of Hamburg, Germany Julie Hochgesang, Gallaudet University, Washington, USA Jette Kristoffersen, Centre for Sign Language, Copenhagen, Denmark Johanna Mesch, Stockholm University, Sweden

Program Committee:

Annelies Braffort, LIMSI/CNRS, Orsay, France Onno Crasborn, Radboud University, Nijmegen, The Netherlands Sarah Ebling, University of Zurich, Zurich, Switzerland Eleni Efthimiou, Institute for Language and Speech Processing, Athens, Greece Michael Filhol, LIMSI/CNRS, Orsay, France Stavroula-Evita Fotinea, Institute for Language and Speech Processing, Athens, Greece Thomas Hanke, University of Hamburg, Hamburg, Germany Julie A. Hochgesang, Gallaudet University, Washington, USA Tommi Jantunen, University of Jyväskylä, Jyväskylä, Finland Trevor Johnston, Macquarie University, Sydney, Australia Reiner Konrad, University of Hamburg, Hamburg, Germany Jette Kristoffersen, Centre for Sign Language, Copenhagen, Denmark John McDonald, DePaul University, Chicago, USA Johanna Mesch, Stockholm University, Stockholm, Sweden Carol Neidle, Boston University, Boston, USA Marc Schulder, University of Hamburg, Hamburg, Germany Rosalee Wolfe, DePaul University, Chicago, USA

Table of Contents

Back and Forth between Theory and Application: Shared Phonological Coding Between ASL Signbank and ASL-LEX Amelia Becker, Donovan Catt and Julie A. Hochgesang1
Improving and Extending Continuous Sign Language Recognition: Taking Iconicity and Spatial Language into Account Valentin Belissen, Michèle Gouiffès and Annelies Braffort
Utterance-Unit Annotation for the JSL Dialogue Corpus: Toward a Multimodal Approach to Corpus Linguistics Mayumi Bono, Rui Sakaida, Tomohiro Okada and Yusuke Miyao13
Measuring Lexical Similarity across Sign Languages in Global Signbank Carl Börstell, Onno Crasborn and Lori Whynot
Optimised Preprocessing for Automatic Mouth Gesture Classification Maren Brumm and Rolf-Rainer Grigat 27
PE2LGP Animator: A Tool To Animate A Portuguese Sign Language AvatarPedro Cabral, Matilde Gonçalves, Hugo Nicolau, Luísa Coheur and Ruben Santos33
<i>Translating an Aesop's Fable to Filipino Sign Language through 3D Animation</i> Mark Cueto, Winnie He, Rei Untiveros, Josh Zuñiga and Joanna Pauline Rivera
<i>LSE_UVIGO: A Multi-source Database for Spanish Sign Language Recognition</i> Laura Docío-Fernández, José Luis Alba-Castro, Soledad Torres-Guijarro, Eduardo Rodríguez-Banga, Manuel Rey-Area, Ania Pérez-Pérez, Sonia Rico-Alonso and Carmen García-Mateo
Elicitation and Corpus of Spontaneous Sign Language Discourse Representation Diagrams Michael Filhol
The Synthesis of Complex Shape Deployments in Sign Language Michael Filhol and John C. McDonald
Signing as Input for a Dictionary Query: Matching Signs Based on Joint Positions of the Dominant Hand Manolis Fragkiadakis, Victoria Nyst and Peter van der Putten
<i>Extending the Public DGS Corpus in Size and Depth</i> Thomas Hanke, Marc Schulder, Reiner Konrad and Elena Jahn
SignHunter – A Sign Elicitation Tool Suitable for Deaf Events Thomas Hanke, Elena Jahn, Sabrina Wähl, Oliver Böse and Lutz König
An Isolated-Signing RGBD Dataset of 100 American Sign Language Signs Produced by Fluent ASL Signers Saad Hassan, Larwan Berke, Elahe Vahdani, Longlong Jing, Yingli Tian and Matt Huenerfauth.89
Approaches to the Anonymisation of Sign Language Corpora
Approximite to the futury misunon of organizangue corpora

Sign Language Motion Capture Dataset for Data-driven SynthesisPavel Jedlička, Zdeněk Krňoul, Jakub Kanis and Miloš Železný101
A survey of Shading Techniques for Facial Deformations on Sign Language Avatars Ronan Johnson and Rosalee Wolfe
Use Cases for a Sign Language Concordancer Marion Kaczmarek and Michael Filhol
Towards Kurdish Text to Sign Translation Zina Kamal and Hossein Hassani 117
Recognition of Static Features in Sign Language Using Key-Points Ioannis Koulierakis, Georgios Siolas, Eleni Efthimiou, Evita Fotinea and Andreas-Georgios Stafylopatis 123
Collocations in Sign Language Lexicography: Towards Semantic Abstractions for Word Sense Discrimination Gabriele Langer and Marc Schulder
Machine Learning for Enhancing Dementia Screening in Ageing Deaf Signers of British Sign Language Xing Liang, Bencie Woll, Kapetanios Epaminondas, Anastasia Angelopoulou and Reda Al-Batat. 135
Machine Translation from Spoken Language to Sign Language using Pre-trained LanguageModel as EncoderTaro Miyazaki, Yusuke Morita and Masanori Sano139
Towards Large-Scale Data Mining for Data-Driven Analysis of Sign LanguagesBoris Mocialov, Graham Turner and Helen Hastie145
Extending a Model for Animating Adverbs of Manner in American Sign Language Robyn Moncrief
From Dictionary to Corpus and Back Again – Linking Heterogeneous Language Resources for DGS Anke Müller, Thomas Hanke, Reiner Konrad, Gabriele Langer and Sabrina Wähl
Automatic Classification of Handshapes in Russian Sign Language Medet Mukushev, Alfarabi Imashev, Vadim Kimmelman and Anara Sandygulova 165
Design and Evaluation for a Prototype of an Online Tool to Access Mathematics Notions in Sign Language Camille Nadal and Christophe Collet
<i>STS-korpus: A Sign Language Web Corpus Tool for Teaching and Public Use</i> Zrajm Öqvist, Nikolaus Riemer Kankkonen and Johanna Mesch
BosphorusSign22k Sign Language Recognition Dataset Oğulcan Özdemir, Ahmet Alp Kındıroğlu, Necati Cihan Camgöz and Lale Akarun
Unsupervised Term Discovery for Continuous Sign Language Korhan Polat and Murat Saraçlar

The Corpus of Finnish Sign Language	
Juhana Salonen, Antti Kronqvist and Tommi Jantunen	197
Tools for the Use of SignWriting as a Language Resource	
Antonio F. G. Sevilla, Alberto Díaz Esteban and José María Lahoz-Bengoechea	. 203
Video-to-HamNoSys Automated Annotation System	
Victor Skobov and Yves Lepage	. 209
Cross-Lingual Keyword Search for Sign Language	
Nazif Can Tamer and Murat Saraçlar	217
	. 217
One Side of the Coin: Development of an ASL-English Parallel Corpus by Leveraging SRT Files	
Rafael Treviño, Julie A. Hochgesang, Emily P. Shaw and Nic Willow	224
Rataci frevino, june A. froengesang, Ennry I. Shaw and fvie winow	. 224