

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

**1st Joint SLTU and CCURL Workshop
(SLTU-CCURL 2020)**

PROCEEDINGS

Editors:
Dorothee Beermann, Laurent Besacier, Sakriani Sakti, and Claudia Soria

**Proceedings of the LREC 2020
1st Joint SLTU and CCURL Workshop
(SLTU-CCURL 2020)**

Edited by: Dorothee Beermann, Laurent Besacier, Sakriani Sakti, Claudia Soria

ISBN: 979-10-95546-35-1

EAN: 9791095546351

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

Introduction

Created in April 2017, SIGUL (<http://www.elra.info/en/sig/sigul/>) is a joint Special Interest Group of the European Language Resources Association (ELRA) and of the International Speech Communication Association (ISCA). SIGUL intends to bring together a number of professionals involved in the development of language resources and technologies for under-resourced languages. Its main objective is to build a community that not only supports linguistic diversity through technology and ICT but also commits to increase the lesser-resourced languages (regional, minority, or endangered) chances to survive the digital world through language and speech technology.

Before the creation of SIGUL, two workshops addressed language technologies for low resource languages: there have been 6 editions of SLTU (Spoken Language Technologies for Under-resourced languages) which started in 2008; and 3 editions of CCURL (Collaboration and Computing for Under-Resourced Languages) which started in 2014. For 2020, and as a satellite event of LREC, SIGUL board decided to organize the 1st Joint Workshop of SLTU (Spoken Language Technologies for Under-resourced languages) and CCURL (Collaboration and Computing for Under-Resourced Languages) (SLTU-CCURL 2020).

We solicited papers related to all areas of natural language processing, speech and computational linguistics, as well as those at the intersection with digital humanities and documentary linguistics, provided that they address less-resourced languages. One goal of this workshop was to offer a venue where researchers in different disciplines and from varied backgrounds can fruitfully explore new areas of intellectual and practical development while honoring their common interest of sustaining less-resourced languages.

Our programme committee comprised 60 experts in natural language processing and spoken language processing from 19 countries. Each of the 64 submitted papers was reviewed by 3 committee members. We finally accepted 54 papers for the proceedings. We would like to express our sincere thanks to all members of this committee (who worked hard despite the difficult conditions associated with the pandemic) and authors for their great work in making this event a scientifically recognised international Workshop. We would also like to extend our thanks to all our sponsors: Google as platinum sponsor; ELRA, ISCA and ACL/SIGEL for endorsing this event.

Unfortunately, as a consequence of the COVID-19 pandemic, LREC 2020 has been canceled and - as a satellite event of the Conference - SLTU-CCURL 2020 has been canceled as well. We nevertheless hope that you will find these workshop proceedings relevant and stimulating for your own research. We are looking forward to see you soon for future events organised by SIGUL.

SLTU-CCURL-2020 Workshop co-chairs:

Dorothee Beermann (NTNU, Norway)
Laurent Besacier (LIG – Université Grenoble Alpes, France)
Sakriani Sakti (NAIST, Japan)
Claudia Soria (CNR-ILC, Italy)

Organizers

Dorothee Beermann (NTNU, Norway)
Laurent Besacier (LIG – Université Grenoble Alpes, France)
Sakriani Sakti (NAIST, Japan)
Claudia Soria (CNR-ILC, Italy)

Program Committee:

Adrian Doyle (University of Galway, Ireland)
Alexey Karpov (SPIIRAS, Russian Federation)
Alexis Palmer (University of North Texas, USA)
Amir Aharoni (Wikimedia Foundation)
Andras Kornai (Hungarian Academy of Sciences, Hungary)
Angelo Mario Del Grosso (CNR-ILC, Italy)
Antti Arppe (University of Alberta, Canada)
Atticus Harrigan (University of Alberta, Canada)
Charl Van Heerden (Saigen, South Africa)
Daan Van Esch (Google)
Dafydd Gibbon (Bielefeld University, Germany)
Delyth Prys (Bangor University, UK)
Dewi Bryn Jones (Bangor University, UK)
Dorothee Beermann (NTNU, Norway)
Emily Le Chen (University of Illinois, USA)
Federico Boschetti (CNR-ILC, Italy)
Francis Tyers (Indiana University, USA)
Gerard Bailly (GIPSA Lab, CNRS)
Gilles Adda (LIMSI/IMMI CNRS, France)
Heysem Kaya (Utrecht University, The Netherlands)
Hyunji “Hayley” Park (University of Illinois at Urbana-Champaign, USA)
Irina Kipyatkova (SPIIRAS, Russia)
Jeff Good (University at Buffalo, USA)
Jelske Dijkstra (Fryske Akademy, The Netherlands)
John Judge (ADAPT DCU, Ireland)
John Philip McCrae (National University of Ireland Galway, Ireland)
Jonas Fromseier Mortensen (Google)
Jordan Lachler (University of Alberta, Canada)
Joseph Mariani (LIMSI-CNRS, France)
Katherine Schmirler (University of Alberta, Canada)
Kepa Sarasola (University of the Basque Country, Spain)
Kevin Scannell (Saint Louis University, Missouri, USA)
Klara Ceberio (Elhuyar, Spain)
Lane Schwartz (University of Illinois at Urbana-Champaign, USA)
Lars Hellan (NTNU, Norway)
Lars Steinert (University of Bremen, Germany)
Laurent Besacier (LIG-IMAG, France)
Maite Melero (Barcelona Supercomputing Center, Spain)

Marcely Zanon Boito (LIG-IMAG, France)
Mathieu Mangeot-Nagata (LIG-IMAG, France)
Matt Coler (University of Groningen, The Netherlands)
Mohammad A. M. Abushariah (The University of Jordan, Jordan)
Nick Thieberger (University of Melbourne / ARC Centre of Excellence for the Dynamics of Language, Australia)
Omar Farooq (AMU, India)
Pierrick Sans (Google)
Pradip K Das (IIT, India)
Richard Littauer (University of Saarland, Germany)
Sahar Ghannay (LIMSI, CNRS, France)
Sakriani Sakti (NAIST, Japan)
Satoshi Nakamura (NAIST, Japan)
Sebastian Stüker (KIT, Germany)
Shyam S Agrawal (KIIT, India)
Sjur Moshagen (UiT The Arctic University of Norway, Norway)
Solomon Teferra Abate (Addis Ababa University, Ethiopia)
Steven Bird (Charles Darwin University, Australia)
Tanja Schultz (Uni-Bremen, Germany)
Thang Vu (Uni-Stuttgart, Germany)
Teresa Lynn (ADAPT Centre, Ireland)
Trond Trosterud (Tromsø University, Norway)
Win Pa Pa (UCS Yangon, Myanmar)

Table of Contents

<i>Neural Models for Predicting Celtic Mutations</i>	
Kevin Scannell	1
<i>Eidos: An Open-Source Auditory Periphery Modeling Toolkit and Evaluation of Cross-Lingual Phonemic Contrasts</i>	
Alexander Gutkin	9
<i>Open-Source High Quality Speech Datasets for Basque, Catalan and Galician</i>	
Oddur Kjartansson, Alexander Gutkin, Alena Butryna, Isin Demirsahin and Clara Rivera	21
<i>Two LRL & Distractor Corpora from Web Information Retrieval and a Small Case Study in Language Identification without Training Corpora</i>	
Armin Hoenen, Cemre Koc and Marc Rahn	28
<i>Morphological Disambiguation of South Sámi with FSTs and Neural Networks</i>	
Mika Hämäläinen and Linda Wiecheteck	36
<i>Effects of Language Relatedness for Cross-lingual Transfer Learning in Character-Based Language Models</i>	
Mittul Singh, Peter Smit, Sami Virpioja and Mikko Kurimo	41
<i>Multilingual Graphemic Hybrid ASR with Massive Data Augmentation</i>	
Chunxi Liu, Qiaochu Zhang, Xiaohui Zhang, Kritika Singh, Yatharth Saraf and Geoffrey Zweig	46
<i>Neural Text-to-Speech Synthesis for an Under-Resourced Language in a Diglossic Environment: the Case of Gascon Occitan</i>	
Ander Corral, Igor Leturia, Aure Séguier, Michæl Barret, Benaset Dazéas, Philippe Boula de Mareüil and Nicolas Quint	53
<i>Transfer Learning for Less-Resourced Semitic Languages Speech Recognition: the Case of Amharic</i>	
Yonas Woldemariam	61
<i>Semi-supervised Acoustic Modelling for Five-lingual Code-switched ASR using Automatically-segmented Soap Opera Speech</i>	
Nick Wilkinson, Astik Biswas, Emre Yilmaz, Febe De Wet, Ewald Van der westhuizen and Thomas Niesler	70
<i>Investigating Language Impact in Bilingual Approaches for Computational Language Documentation</i>	
Marcely Zanon Boito, Aline Villavicencio and Laurent Besacier	79
<i>Design and evaluation of a smartphone keyboard for Plains Cree syllabics</i>	
Eddie Santos and Atticus Harrigan	88
<i>MultiSeg: Parallel Data and Subword Information for Learning Bilingual Embeddings in Low Resource Scenarios</i>	
Efsun Sarioglu Kayi, Vishal Anand and Smaranda Muresan	97
<i>Poio Text Prediction: Lessons on the Development and Sustainability of LTs for Endangered Languages</i>	
Gema Zamora Fernández, Vera Ferreira and Pedro Manha	106
<i>Text Corpora and the Challenge of Newly Written Languages</i>	
Alice Millour and Karën Fort	111

<i>Scaling Language Data Import/Export with a Data Transformer Interface</i>	121
Nicholas Buckeridge and Ben Foley	
<i>Fully Convolutional ASR for Less-Resourced Endangered Languages</i>	126
Bao Thai, Robert Jimerson, Raymond Ptucha and Emily Prud'hommeaux	
<i>Cross-Lingual Machine Speech Chain for Javanese, Sundanese, Balinese, and Bataks Speech Recognition and Synthesis</i>	131
Sashi Novitasari, Andros Tjandra, Sakriani Sakti and Satoshi Nakamura	
<i>Automatic Myanmar Image Captioning using CNN and LSTM-Based Language Model</i>	139
San Pa Pa Aung, Win Pa Pa and Tin Lay Nwe	
<i>Phoneme Boundary Analysis using Multiway Geometric Properties of Waveform Trajectories</i>	144
BHAGATH PARABATTINA and Pradip K. Das	
<i>Natural Language Processing Chains Inside a Cross-lingual Event-Centric Knowledge Pipeline for European Union Under-resourced Languages</i>	153
Diego Alves, Gaurish Thakkar and Marko Tadić	
<i>Component Analysis of Adjectives in Luxembourgish for Detecting Sentiments</i>	159
Joshgun Sirajzade, Daniela Gierschek and Christoph Schommer	
<i>Acoustic-Phonetic Approach for ASR of Less Resourced Languages Using Monolingual and Cross-Lingual Information</i>	167
shweta bansal	
<i>An Annotation Framework for Luxembourgish Sentiment Analysis</i>	172
Joshgun Sirajzade, Daniela Gierschek and Christoph Schommer	
<i>A Sentiment Analysis Dataset for Code-Mixed Malayalam-English</i>	177
Bharathi Raja Chakravarthi, Navya Jose, Shardul Suryawanshi, Elizabeth Sherly and John Philip McCrae	
<i>Speech-Emotion Detection in an Indonesian Movie</i>	185
Fahmi Fahmi, Meganingrum Arista Jiwanggi and Mirna Adriani	
<i>Macsen: A Voice Assistant for Speakers of a Lesser Resourced Language</i>	194
Dewi Jones	
<i>Corpus Creation for Sentiment Analysis in Code-Mixed Tamil-English Text</i>	202
Bharathi Raja Chakravarthi, Vigneshwaran Muralidaran, Ruba Priyadarshini and John Philip McCrae	
<i>Gender Detection from Human Voice Using Tensor Analysis</i>	211
Prasanta Roy, Parabattina Bhagath and Pradip Das	
<i>Data-Driven Parametric Text Normalization: Rapidly Scaling Finite-State Transduction Verbalizers to New Languages</i>	218
Sandy Ritchie, Eoin Mahon, Kim Heiligenstein, Nikos Bampounis, Daan van Esch, Christian Schallhart, Jonas Mortensen and Benoit Brard	
<i>Lenition and Fortition of Stop Codas in Romanian</i>	226
Mathilde Hutin, Oana Niculescu, Ioana Vasilescu, Lori Lamel and Martine Adda-Decker	

<i>Adapting a Welsh Terminology Tool to Develop a Cornish Dictionary</i>	
Delyth Prys	235
<i>Multiple Segmentations of Thai Sentences for Neural Machine Translation</i>	
Alberto Poncelas, Wichaya Pidchamook, Chao-Hong Liu, James Hadley and Andy Way	240
<i>Automatic Extraction of Verb Paradigms in Regional Languages: the case of the Linguistic Crescent varieties</i>	
elena knyazeva, Gilles Adda, Philippe Boula de Mareüil, Maximilien Guérin and Nicolas Quint	245
<i>FST Morphology for the Endangered Skolt Sami Language</i>	
Jack Rueter and Mika Hämäläinen	250
<i>Voted-Perceptron Approach for Kazakh Morphological Disambiguation</i>	
Gulmira Tolegen, Alymzhan Toleu and Rustam Mussabayev	258
<i>DNN-Based Multilingual Automatic Speech Recognition for Wolaytta using Oromo Speech</i>	
Martha Yifiru Tachbelie, Solomon Teferra Abate and Tanja Schultz	265
<i>Building Language Models for Morphologically Rich Low-Resource Languages using Data from Related Donor Languages: the Case of Uyghur</i>	
Ayimunishagu Abulimiti and Tanja Schultz.....	271
<i>Basic Language Resources for 31 Languages (Plus English): The LORELEI Representative and Incident Language Packs</i>	
Jennifer Tracey and Stephanie Strassel.....	277
<i>On the Exploration of English to Urdu Machine Translation</i>	
Sadaf Abdul Rauf, Syeda Abida, Noor-e- Hira, Syeda Zahra, Dania Parvez, Javeria Bashir and Qurat-ul-ain Majid	285
<i>Developing a Twi (Asante) Dictionary from Akan Interlinear Glossed Texts</i>	
Dorothee Beermann, Lars Hellan, Pavel Mihaylov and Anna Struck	294
<i>Adapting Language Specific Components of Cross-Media Analysis Frameworks to Less-Resourced Languages: the Case of Amharic</i>	
Yonas Woldemariam and Adam Dahlgren	298
<i>Phonemic Transcription of Low-Resource Languages: To What Extent can Preprocessing be Automated?</i>	
Guillaume Wisniewski, Séverine Guillaume and Alexis Michaud	306
<i>Manual Speech Synthesis Data Acquisition - From Script Design to Recording Speech</i>	
Atli Sigurgeirsson, Gunnar Örnólfsson and Jón Guðnason	316
<i>Owóksape - An Online Language Learning Platform for Lakota</i>	
Jan Ullrich, Elliot Thornton, Peter Vieira, Logan Swango and Marek Kupiec	321
<i>A Corpus of the Sorani Kurdish Folkloric Lyrics</i>	
Sina Ahmadi, Hossein Hassani and Kamaladdin Abedi	330
<i>Improving the Language Model for Low-Resource ASR with Online Text Corpora</i>	
Nils Hjortnaes, Timofey Arkhangelskiy, Niko Partanen, Michael Rießler and Francis Tyers ...	336

A Summary of the First Workshop on Language Technology for Language Documentation and Revitalization

Graham Neubig, Shruti Rijhwani, Alexis Palmer, Jordan MacKenzie, Hilaria Cruz, Xinjian Li, Matthew Lee, Aditi Chaudhary, Luke Gessler, Steven Abney, Shirley Anugrah Hayati, Antonios Anastasopoulos, Olga Zamaraeva, Emily Prud'hommeaux, Jennette Child, Sara Child, Rebecca Knowles, Sarah Moeller, Jeffrey Micher, Yiyuan Li, Sydney Zink, Mengzhou Xia, Roshan S Sharma and Patrick Littell 342

"A Passage to India": Pre-trained Word Embeddings for Indian Languages

Saurav Kumar, Saunack Kumar, Diptesh Kanodia and Pushpak Bhattacharyya 352

A Counselling Corpus in Cantonese

John Lee, Tianyuan Cai, Wenxiu Xie and Lam Xing 358

Speech Transcription Challenges for Resource Constrained Indigenous Language Cree

Vishwa Gupta and Gilles Boulian 362

Turkish Emotion Voice Database (TurEV-DB)

Salih Firat Canpolat, Zuhal Ormanoğlu and Deniz Zeyrek 368