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Proceedings of the

4th

Workshop on the

Use of Computational Methods in

the Study of Endangered

Languages

Volume 1 (Papers)

March 2–3, 2021

Online

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Preface

These proceedings contain the papers presented at the 4th Workshop on the Use of Computational Methods in the Study of Endangered languages, held virtually March 2–3, 2021, and co-timed to immediately precede the 7th International Conference on Language Documentation and Conservation (ICLDC7). As the name implies, this is the fourth workshop held on the topic—the first meeting was co-located with the ACL main conference in Baltimore, Maryland in 2014 and the second and third ones in 2017 and 2019 were co-located with the 5th and 6th editions of the International Conference on Language Documentation and Conservation (ICLDC) at the University of Hawai‘i at Mānoa.

The workshop covers a wide range of topics relevant to the study and documentation of endangered languages, ranging from technical papers on working systems and applications, to reports on community activities with supporting computational components.

The purpose of the workshop is to bring together computational researchers, documentary linguists, and people involved with community efforts of language documentation and revitalization to take part in both formal and informal exchanges on how to integrate rapidly evolving language processing methods and tools into efforts of language description, documentation, and revitalization. The organizers are pleased with the range of papers, many of which highlight the importance of interdisciplinary work and interaction between the various communities that the workshop is aimed towards.

We received 24 submissions as papers or extended abstracts. After a thorough review process, 8 of the submissions were selected for Volume 1 as long papers and 4 as short papers, to be published in the ACL Anthology, representing a 50% acceptance rate. In addition, an additional 2 long papers and 1 short paper were accepted as resource oriented papers, alongside 5 extended abstracts (1 as a resource presentation), for Volume 2, to be published in CU Scholar.

The Organizing Committee would like to thank the Program Committee for their thoughtful input on the submissions. We are also grateful to the Social Sciences and Humanities Research Council (SSHRC) of Canada for supporting the workshop through their Partnership Grant #895-2019-1012. We would moreover want to acknowledge the support of the organizers of ICLDC7, in particular Brad McDonnell.

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Conference Program

Tuesday, March 2nd, 2021

10:00–10:15 *Opening remarks*

10:15–10:30 **Translating Fieldwork into Datasets: the development of a corpus for the quantitative investigation of grammatical phenomena in Eibela.** Grant Aiton

10:30–10:45 **Theoretical and methodological considerations on building a corpus of Tundra Nenets.** Nikolett Mus and Réka Metzger

10:45–11:00 *Expanding the JHU Bible Corpus for Machine Translation of the Indigenous Languages of North America*
Garrett Nicolai, Edith Coates, Ming Zhang and Miikka Silfverberg

11:00–11:15 *The language documentation quartet*
Simon Musgrave and Nick Thieberger

11:15–11:30 *LARA in the Service of Revivalistics and Documentary Linguistics: Community Engagement and Endangered Languages*
Ghil'Ad Zuckermann, Sigurður Vigfússon, Manny Rayner, Neasa Ní Chiaráin, Nedelina Ivanova, Hanieh Habibi and Branislav Bédi

11:30–11:45 *Fossicking in dominant language teaching: Javanese and Indonesian 'low' varieties in language teaching resources*
Zara Maxwell-Smith

11:45–12:00 *Computational Analysis versus Human Intuition: A Critical Comparison of Vector Semantics with Manual Semantic Classification in the Context of Plains Cree*
Daniel Dacanay, Atticus Harrigan and Antti Arppe

12:00–15:00 *Break*

15:00–15:15 *The Usefulness of Bibles in Low-Resource Machine Translation*
Ling Liu, Zach Ryan and Mans Hulden

15:15–15:30 *User-friendly Automatic Transcription of Low-resource Languages: Plugging ESP-net into Elpis*
Oliver Adams, Benjamin Galliot, Guillaume Wisniewski, Nicholas Lambourne, Ben Foley, Rahasya Sanders-Dwyer, Janet Wiles, Alexis Michaud, Séverine Guillaume, Laurent Besacier, Christopher Cox, Katya Aplonova, Guillaume Jacques and Nathan Hill

15:30–15:45 *The Relevance of the Source Language in Transfer Learning for ASR*
Nils Hjortnaes, Niko Partanen, Michael Rießler and Francis M. Tyers

Tuesday, March 2nd, 2021 (continued)

- 15:45–16:00 *Shared Digital Resource Application within Insular Scandinavian*
Hinrik Hafsteinsson and Anton Karl Ingason
- 16:00–16:15 mScrabble: A Multilingual Scrabble and Lexicon Collector. Ritesh Kumar, Bornini Lahiri and Siddharth Singh**
- 16:15–16:30 "Mansi corPÖS": Archiving Mansi written materials published between 1937 and 2020. Csilla Horvath**
- 16:30–16:45 Lexeme: the Concept of System and the Creation of Speech Corpora for Two Endangered Languages. Ivan Ubaleht**

Wednesday, March 3rd, 2021

- 10:00–10:15 *Towards an Open Source Finite-State Morphological Analyzer for Zacatlán-Ahuacatlán-Tepetzintla Nahuatl*
Robert Pugh and Francis Tyers
- 10:15–10:30 *Integrating Automated Segmentation and Glossing into Documentary and Descriptive Linguistics*
Sarah Moeller and Mans Hulden
- 10:30–10:45 Advances in Low Resource and Endangered Languages. Evelyne Tzoukermann and Jason D. Duncan**
- 10:45–11:00 *Developing a Shared Task for Speech Processing on Endangered Languages*
Gina-Anne Levow, Emily Ahn and Emily M. Bender

Wednesday, March 3rd, 2021 (continued)

11:00–11:10 **A Digital Corpus of St. Lawrence Island Yupik.** Lane Schwartz, Emily Chen, Hyunji Hayley Park, Edward Jahn and Sylvia L.R. Schreiner

11:10–11:20 **Migration of Small and Endangered Languages into the Wikipedia.** Armin Hoenen and Marc D. Rahn

11:20–12:20 *Discussion (topic will be announced)*

