UC Merced

Title

Learning cognitive and linguistic prosodic categories for automatic cross-lingual sign language understanding

Permalink

https://escholarship.org/uc/item/4f16m2vv

Journal

Authors

Inan, Mert
zhong, yang
Hassan, Sabit
et al.

Publication Date

2022

Peer reviewed

Learning cognitive and linguistic prosodic categories for automatic cross-lingual sign language understanding

Mert Inan
University of Pittsburgh, Pittsburgh, Pennsylvania, United States

yang zhong
University of Pittsburgh, Pittsburgh, Pennsylvania, United States

Sabit Hassan
University of Pittsburgh, Pittsburgh, Pennsylvania, United States

Lorna Quandt
Gallaudet University, Washington, District of Columbia, United States

Malihe Alikhani
UPitt , Pittsburgh, Pennsylvania, United States

Abstract

End-to-end sign language understanding and generation models do not accurately represent the prosody of the languages. This lack of temporal and spatial variation in generated signs leads to poor quality and lower human perception. We seek to improve prosody in automatic models that understand sign language by modeling intensification in a data-driven manner with strategies grounded in the linguistics of sign language by enhancing the representation of intensity modifiers in gloss annotations. In this work, we identify four major categories for sign intensification across two different sign languages. Through an extensive data exploration, we compare annotated datasets for German Sign Language and British Sign Language for intensification. We analyze the effects of the domain of the dataset on the intensifier abundance and the changes of intensifier use across different sign languages.