Grounding Word Learning Across Situations

Ryan Gabbard
University of Southern California, Information Sciences Institute, Waltham, Massachusetts, United States

Jacob Lichtefeld
University of Southern California, Los Angeles, California, United States

Deniz Beser
University of Southern California, Los Angeles, California, United States

Joe Cecil
USC Information Sciences Institute, Waltham, Massachusetts, United States

Mitch Marcus
University of Pennsylvania, Philadelphia, Pennsylvania, United States

Sarah Payne
University of Pennsylvania, Philadelphia, Pennsylvania, United States

Charles Yang
U Penn, Philadelphia, Pennsylvania, United States

Marjorie Freedman
USC Information Sciences Institute, Marina Del Rey, California, United States

Abstract

Word learning models are typically evaluated as the problem of observing words together with sets of atomic objects and learn-ing an alignment between them. We use ADAM, a Python software platform for modeling grounded language acquisition, to evaluate a particular word learning model, Pursuit (Stevens, Gleitman, Trueswell, & Yang, 2017),under more realistic learning conditions (see e.g. Gleitman and Trueswell (2020) for review). In particular, we manipulate the degree of referential ambiguity and the salience of attentional cues available to the learner, and we present extensions to Pursuit which address the challenges of non-atomic meanings and exploiting attentional cues.