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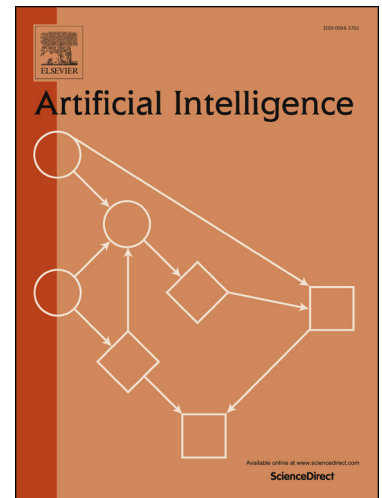
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A Model of Language Learning with Semantics and Meaning-Preserving Corrections

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Abstract

We present a computational model that takes into account semantics for language learning and allows us to model meaning-preserving corrections. The model is constructed with a learner and a teacher who interact in a sequence of shared situations by producing utterances intended to denote a unique object in each situation.

We test our model with limited sublanguages of 10 natural languages exhibiting a variety of linguistic phenomena. The results show that learning to a high level of performance occurs after a reasonable number of interactions. Comparing the effect of a teacher who does no correction to that of a teacher who corrects whenever possible, we show that under certain conditions corrections can accelerate the rate of learning.

We also define and analyze a simplified model of a probabilistic process of collecting corrections to help understand the possibilities and limitations of corrections in our setting.

Keywords: Semantics, Corrections, Language Learning, Grammar Learning

1. Introduction

Children acquire their native language easily, quickly and without any specific training. However, *interaction* with other human speakers is crucial

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