

MODELING SYNTAX ACQUISITION WITH COGNITIVE CONSTRAINTS

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Children seem to learn their first languages effortlessly, but how they are able to do this has been heatedly debated for many years among linguists.

Recent advances in computational linguistics have presented us a unique opportunity to explore the problem of syntax acquisition with computational modeling. In this talk, I will first introduce syntax acquisition modeling, also known as grammar induction, from a theoretical perspective. I will then present our efforts in modeling syntax acquisition with statistical machine learning models with human memory constraints. Simulations using Bayesian and neural network models on natural data in many languages have provided insight into how language acquisition may happen without universals as inductive biases as well as how cognitive constraints may interact with syntax acquisition. Finally I will discuss some theoretical considerations and future directions for acquisition modeling.