Inferring the hypothesis spaces underlying inductive generalization

Sean Tauber
University of Adelaide

Daniel Navarro
University of Adelaide

Amy Perfors
University of Adelaide

Michael Lee
University of California, Irvine

Abstract: Although there has been much interest in inferring mental representations from similarity data, there have been no attempts at inferring representations directly from generalization data. We develop an approach in which a hypothesis space can be inferred from human generalization data. By defining the likelihood function relating human generalization data to a Bayesian generalization model, we are able to infer the most likely hypothesis space(s) humans used to produce the generalization data. One of the advantages is that, unlike with similarity based approaches, we can explore the effect of semantic context on the hypothesis spaces people use when generalizing.