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Bayesian Generalization of Emojis

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Abstract

We explore how attributes and relations contribute to generalization of a property across stimuli for ecologically valid stimuli used often to communicate: emojis. We use the Bayesian Generalization Framework to model generalization judgments from given triplets of emojis to new triplets of emojis that share either a common relation, common attribute, both, or neither. Based on the model predictions, we conducted a behavioral experiment investigating the strength of attributes and relations when generalizing across emojis. The model learned to use attributes or relations appropriately; however when given triplets that share both a common attribute and relation, it gave more weight to the common attributes than human participants did. This suggests that people are strongly, but not completely, biased towards using relations when generalizing a novel property across triplets of emojis.