

Inferring other people's relationships by observing their social interactions

Alan Jern

Rose-Hulman Institute of Technology, Terre Haute, Indiana, United States

Anna Scott

Rose-Hulman Institute of Technology, Terre Haute, Indiana, United States

Nathan Blank

Uptake Technologies Inc., Chicago, Illinois, United States

Charles Kemp

Carnegie Mellon University, Pittsburgh, Pennsylvania, United States

Abstract

Observing how two people act toward one another can sometimes tell you something about their relationship. Although there has been some work in the social cognition literature on how people represent different types of social relationships (Haslam, 1994; Fiske & Haslam, 1996), there have been few attempts to study how people make inferences about those relationships. We present a probabilistic computational model of how people make these inferences that builds on previous work (Jern & Kemp, 2014). We extend the model to account for social interactions in which two people in an interaction are each making choices that affect one another simultaneously. We tested the model in two experiments in which subjects observed the outcome of two players' choices in games like the prisoner's dilemma and made inferences about the players' relationships. The results were largely consistent with the model's predictions with some notable exceptions.