



Concept Learning, Case-Based Reasoning, and the Future of Empirical Game Theory

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Wednesday September 10th, 2014

8:30-9:30am

Biotechnology Building BI 2221

(ITC Conference Room)



Decision theory is a subfield of game theory in economics, and was exclusively an analytical field (not computational), before my application of agent-based modeling techniques from complex systems. I constructed a software agent from the mathematical model of Case-based Decision Theory (Gilboa and Schmeidler, 1995, 1996). I have brought this to two different laboratory experiments: a psychology experiment about concept learning, which measures individual learning and choice (Pape and Kurtz, 2013); and an economic experiment about the repeated Prisoner's Dilemma, which measures social learning and choice (Guilfoos and Pape, 2014). We have a remarkably good fit to the human data. Here I give an overview of both of these sets of results and describe the implications for the future of this new kind of empirical game theory.

Dr. Pape is an Assistant Professor of Economics and Associate Director of the CoCo Research Group at Binghamton University. His research interests include microeconomic theory, decision theory, and complex systems in general.

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