

Socializing a Social Robot with an Artificial Society

Erin Kennedy

Computer Science, Honors Program

Advisor: James Carroll

Associate Professor: Electrical and Computer Engineering

Clarkson University, Potsdam NY

It is a common premise that domestic animals enable elderly people to overcome some of the challenges that accompany aging. By definition, as the elderly age, their ability to care for an animal decreases. Yet, the need for social interaction still exists. This is one of the many potential applications where an autonomous robot with a social understanding can be integrated. By substituting the domestic animal with a social robot, we aim to maintain the depth of social interaction. In order for this to be possible, the robot must be adept to handle regular social interactions, and proactively engage the elderly to interact with it.

In this presentation, we introduce a method to create a social robot that has a prior history in social interaction. This method involves using an artificial society which is implemented in a software environment, and uses tactics from primary socialization in social psychology. As we envision the robot to be socialized in its own artificial culture, we rely heavily on randomized numbers and probabilistic models in order to reduce the social bias that may be introduced through the initial states of the algorithms. We report on the consistency of the method and the observable patterns. We then use this data to hypothesize the future results of using a secondary socialization tactic. Additionally, the differences between the resulting, artificially created, 'Robo-culture' and North American culture are discussed.

Erin Kennedy, Honors Summer Research 2009, Class 2013

Advisor: James Carroll, Associate Professor ECE