

Computational approaches to emotional decision making

Findings on the role that emotion plays in human behavior have transformed Artificial Intelligence computations. Modern research explores how to simulate more intelligent and flexible systems. Several studies focus on the role that emotion has in order to establish values for alternative decision and decision outcomes. For instance, Busemeyer et al. (2007) argued that emotional state affects the subjectivity value of alternative choice.

However, emotional concepts in these theories are generally not defined formally and it is difficult to describe in systematic detail how processes work. In this sense, structures and processes cannot be explicitly implemented. Some attempts have been incorporated into larger computational systems that try to model how emotion affects human mental processes and behavior (Becker-Asano & Wachsmuth, 2008; Marinier, Laird & Lewis, 2009; Marsella & Gratch, 2009; Parkinson, 2009; Sander, Grandjean & Scherer, 2005).

As we will see, some tutoring systems have explored this potential to inform user models. Likewise, dialogue systems, mixed-initiative planning systems, or systems that learn from observation could also benefit from such an approach (Dickinson, Brew & Meurers, 2013; Jurafsky & Martin, 2009). That is, considering emotion as interaction can be relevant in order to explain the dynamic role it plays in action and cognition (see Boehner et al., 2007).