**1.** [**Emotional Agent Modeling (EMAM)**](http://www.zuj.edu.jo/portal/kholud-abu-maria/blog/2015/03/11/emotional-agent-modeling-emam/)

**Khulood Abu Maria** and Raed Abu Zatir , Chapter XV: "Emotional Agent Modeling (EMAM)", in a book published by IGI Inc.: "Simulation and Modeling: Current Technologies and Applications", 2007.

# ABSTRACT

Artificial emotions play an important role at the control level of agent architectures: emotion may lead to reactive or deliberative behaviors, it may intensify an agent’s motivations, it can create new goals (and then sub-goals) and it can set new criteria for the selection of the methods and the plans the agent uses to satisfy its motives. Since artificial emotion is a process that operates at the control level of agent architecture, the behavior of the agent will improve if agent’s emotion process improves (El-Nasr, Ioerger, & Yen, 1998; El-Nasr & Yen, 1998). In this introductory chapter, our aim is to build agents with the mission “to bring life” several applications, such as: information, transaction, education, tutoring, business, entertainment and e-commerce. Therefore we want to develop artificial mechanisms that can play the role emotion plays in natural life. We call these mechanisms “artificial emotions” (Scheutz, 2004). As Damasio (1994) argues, emotions are necessary for problem solving because when we plan our lives, rather than examining every opinion, some possibilities are emotionally blocked off. We will try to investigate if artificial emotional control can improve performance of the agent in some circumstances. We would like to introduce the readers to our model, which is based on both symbolic and computational relations. Simulations are left for another publication. The space available is barely enough to give an overall picture about our model. The main contributions of this proposal model is to argue that emotion learning is a valid approach to improve the behavior of artificial agents, and to present a systematic view of the kinds of emotion learning that can take place, assuming emotion is a process involving assessment, emotion-signal generation, emotion-response and then emotion learning (LeDoux, 1996). To come across as emotional, an agent needs to incorporate a deeper model of personality, sensitivity, mood, feeling and emotions, and, in particular, directly connect these affective concepts. For agents to be believable, the minds of agents should not be restricted to model reasoning, intelligence and knowledge but also emotions, sensitivity, feeling, mood and personality (Nemani & Allan, 2001). We will propose EMAM (Emotional Agent Model) for this purpose. EMAM generates artificial emotion signals, evaluates and assesses events, takes into account the integration of personality, sensitivity, mood, feeling and motivational states then takes proper action or plans for actions (sequence of actions) (LeDoux, 1996; Gratch, 2000).