

Interactive Agents and Social Intelligence Design

Hiroshi Nakajima, Ph.D.
Senior Technology Specialist
Omron Corporation
nak@ari.ncl.omron.co.jp

Abstract

This lecture is for the engineers who are interested in Firstly, discussions on intelligence are introduced with focusing on the differences between rational and social intelligence. Rational one is strongly connected with the goal-oriented intelligence for finding answers and solving problems. This type of intelligence has been traditionally studied and researched in the artificial intelligence field. In contrast with rational one, social one is related to the intelligence for sharing information and feeling something with others.

The mind model is employed to realize social type intelligence in the interaction between human and machine. The model is embedded into software agents and pet robot to control social behavior of the agents and robots.

In this lecture, the design of the mind model is introduced and its applications such as creatures in the virtual world, cat-type pet robot, life-like agent, and socially intelligent agent. Besides the lecturer's works, the topics in the field of interactive agents and social intelligent design will be presented.

Related References:

- [1] Ryota Yamada, Hiroshi Nakajima, Scott Brave, Heidi Maldonado, Jong-Eun Roselyn Lee, Clifford Nass, and Yasunori Morishima, "An Implementation of Socially Intelligent Agents for Emotional Support and its Application," Proceedings of 2006 IEEE International Conference on Systems, Man, and Cybernetics, 2006.
- [2] Hiroshi Nakajima, Yasunori Morishima, Ryota Yamada, Scott Brave, Clifford Nass, Masaki Arao, and Shigeyasu Kawaji, "Mind Model and Social Intelligence in Human-Machine Collaborative Systems," Proceedings of 16th IFAC World Congress, Fr-A16-TO/5, Prague, Czech Republic (2005)
- [3] Hirohide Ushida, Yuji Hirayama, and Hiroshi Nakajima, "Emotion Model for Life-like Agent and Its Evaluation," Proceedings of the 15th National Conference on Artificial Intelligence (AAAI-98), Madison, pp.62-69 (1998)