



*Special Track:*

## **Games and Entertainment**

Digital games and entertainment are a modern area of enormous economic potentials and of a serious alleged social impact. The video game industry has surpassed the revenue of the box office motion picture industry. Computers with advanced graphics capabilities have contributed to the immersive interactive experience that attracts many to spend as much of their leisure time playing video games as watching television. However, the AI behind games and our understanding of knowledge usage in these interactive worlds has remained relatively undeveloped. As games and entertainment grow beyond the confines of computers and consoles to the intelligent environments of the future, we may soon find ourselves interacting in play with the very environments in which we live. This track looks at games and entertainment from these three views: digital games knowledge media, interactive computer game AI, and AI in ambient entertainment.

Digital games knowledge media addresses the interdisciplinary endeavor of understanding games as knowledge media systems. How is knowledge represented in games? How does knowledge contribute to the pleasure of game playing, to immersion and flow? How relevant is knowledge in games to the social impact of game playing? How to base game design on explicit knowledge management?

With the advancement of console and computer systems towards more computational power, specialized processing units, and multiple core CPUs, along with the maturing of the graphics capabilities, game developers are dedicating more time and CPU cycles to game physics and AI in the next generation of interactive games. Efficient theories, techniques, and tricks that improve the intelligence of games, adversaries, allies, and the overall experience are in great demand.

Games and other leisure activities in intelligent environments, that exhibit ambient intelligence, may require and encourage physical body movements. Hence, we look at bodily and gestural interaction with game and leisure environments equipped with sensors (for example, cameras, microphones, touch and proximity sensors) and some application-dependent intelligence allowing reactive and proactive activity. Interpretation of the bodily interaction, requiring domain-dependent artificial intelligence, needs to be performed by the environment and the agents that maintain the interaction with the human partner. In the display of reactive and proactive activity embodied virtual agents play an important role. They can play the role of teacher, coach, partner, or buddy.