Learning Sciences

Learning Sciences involves the research and application of artificial intelligence and video game techniques to solve educational challenges, including fostering complex problem solving skills and promoting engagement. The goal of these efforts is computer-mediated instruction that understands and leverages how people learn and what teaching and tutoring methods are most effective.

Research efforts encompass the design, authoring, guidance, mentoring, and assessment involved in computer-mediated instruction – including educational video games - and how people best recall and retain lessons they are taught.

SELECTED RESEARCH AREAS
Intelligent Tutoring Systems

This work seeks to maximize the value of virtual human-based training experiences through the use of explainable artificial intelligence, guidance and feedback, automated after-action reviews, and intelligent control of virtual human behaviors. It also seeks to develop a suite of authoring components specifically for use with virtual humans that is designed with learning in mind from the outset.

Informal Science Education

Coach Mike, is a National Science Foundation-funded collaboration between the University of Southern California Institute for Creative Technologies and the Boston Museum of Science that teaches visitors how to program a robot. Not only can he guide people to get the robot turning, buzzing, singing, and more, but he is capable of describing how the exhibit actually works and creating specific challenges for guests to solve. He's there to explain, encourage, and give help when needed. A general aim is to balance the importance of exploration and play with the goal of giving feedback and guidance for specific challenges. Thus, Coach Mike's help is always delivered in entertaining and encouraging ways that seek to maximize visitor engagement.

At the University of Southern California Institute for Creative Technologies leaders in artificial intelligence, graphics, virtual reality and narrative advance low-cost immersive techniques and technologies to solve problems facing service members, students and society.