UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Seminar Announcement

DIPARTIMENTO DI INFORMATICA

The Seminars on "Information Technology Outlook" – PhD Programme in Computer Science and Mathematics

Bruce M. McLaren

Associate Research Professor,
Carnegie Mellon University, USA

Tuesday May 24, 2022
11:00-12:30 AM

Sala Consiglio
http://bit.ly/Gallego21

Learning with AI-Infused Digital Learning Games

Artificial Intelligence in Education (AIED) games are aimed at supporting learning through motivating and engaging students in computer-based gameplay. A variety of digital learning games have led to educational benefits in a range of domains (e.g., math, science, reading, argumentation). However, AIED work with digital learning games is still nascent because, while a substantial amount of AIED research has been conducted with digital games to support learning, for instance, with games such as Battleship Numberline, Crystal Island, Decimal Point, MathSpring, Policy World, Zombie Division, and Physics Playground, there are still many more ways that AI could be applied to learning games. This talk will discuss the progress thus far with AIED digital learning games, highlighting and categorizing the most important and noteworthy games in the field, as well as suggesting new directions, such as creating more compelling and interactive non-player characters and creating more equity and inclusion within learning games. With a multi-disciplinary approach, tapping the expertise of learning scientists, educational technologists, game designers, and AI experts, these new directions can be achieved, leading to more engagement, and learning with learning games.

Prof. Bruce M. McLaren is an Associate Research Professor at Carnegie Mellon University and past President of the International Artificial Intelligence in Education Society (2017-2019). McLaren is passionate about how technology can support education and has dedicated his research to projects that explore how students can learn with digital learning games (also called educational games), intelligent tutoring systems, e-learning principles, and collaborative learning. McLaren's research with digital learning games, for instance, has shown that students can learn about decimals and decimal operations better by playing a game than by using more conventional technology. McLaren's research with digital learning games has also uncovered a gender effect, in which females are more engaged and learn more from his Decimal Point learning game. Prof. McLaren holds a Ph.D. and M.S. in Intelligent Systems from the University of Pittsburgh, an M.S. in Computer Science from the University of Pittsburgh, and a B.S. in Computer Science (cum laude) from Millersville University. During his career, he has 185 publications (36 journal articles) spanning peer-reviewed journals, conferences, workshops, symposiums, and book chapters. In addition to his research background, Prof. McLaren has over 20 years experience in the commercial sector, applying research ideas to practical problems using Artificial Intelligence techniques.
McLaren's Wikipedia page provides further information on his background: https://en.wikipedia.org/wiki/Bruce_M._McLaren