

Editorial

Cyber Games and Interactive Entertainment

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Computer games and interactive entertainment have gained much attention recently in the domain of digital media. They are now being applied or used in many areas such as entertainment, education, training, and art. Today, the computer games and interactive entertainment market is highly competitive. In this special issue, all the submissions are invited papers which are extended from original conference papers that were published in the Proceedings of CyberGames 2006 and 2007: International Conference on Games Research and Development, and the Proceedings of the Third Australasian Conference on Interactive Entertainment (IE 2006). This special issue aims to present the latest works on new techniques and applications in the area of cyber games and interactive entertainment. A total of 29 papers have been submitted to this special issue, of which 20 high-quality papers have been accepted after the peer review process. This special issue starts with the first paper entitled “A gameplay definition through videogame classification” by D. Djaouti et al. In their paper, the authors focused mainly on defining game play through some kind of videogame classification. The work presented in this paper is a part of a bigger and global experiment attempting to understand game play better with a study of the nature of videogames. Since game play is an important component in any interactive entertainment design, this work provides some interesting contribution to the field. Still along the area of game play, the second paper is by C. A. Lindley and C. C. Sennersten and is entitled “Game play schemas: from player analysis to adaptive game mechanics.” It looks at the use of schema theory and model to understand the cognitive processes underlying game play. This paper examines both the predesigned schema as well as using adaptive game mechanics. In game design, story and narration have become an important area to enhance the game play. The paper by Dan Pinchbeck, “Story and recall in first person

shooters,” looks into the area of storytelling specifically for the games of first-person shooters (FPSs). With the advancement of technologies, FPS games are able to deliver the high expectation of incorporating a story into the game play. The whole idea of storytelling is to gain the interest of the game players and to perform some indirect control on the players by leading them through the game-play experience. Audio and music have been quite powerful in delivering part of the objective of gaining interest and performing indirect control. The work presented by M. Grimshaw and G. Schott, “A conceptual framework for the analysis of first-person shooter audio and its potential use for game engines,” is also useful for achieving such objectives. This paper proposed a new conceptual framework for the design of audio used for developing FPS games. The authors suggested that the framework could allow better immersive experience when playing FPS games. The next paper by M. Eyles and R. Eglin, “Ambient games: revealing a route to a world where work is play,” also suggested that audio and music are important in developing good game play. They have introduced a term called “ambient games,” which is basically evolved from the concepts of ambient music. They have showed in their paper how to set this concept of ambient games in the technological context. One of the important areas of cyber games and interactive entertainment is graphics. With the advancement of technologies, graphics presented today are much more complex compared to about five years ago. However, researchers are still aiming to find more effective and efficient algorithms for generating better graphics. The paper by S. Raman and Z. Jianmin, “Efficient terrain triangulation and modification algorithms for game applications,” presented an efficient terrain generation algorithm. The proposed algorithm is based on constraint conforming Delaunay triangulation. The paper by M. White, “Real-time optimally adapting meshes: terrain visualization in games,”

presented discussions on some of the factors that will affect the terrain visualization in games. It is always challenging to present high-quality scenes through the graphics hardware especially in real-time interactive graphics applications. This paper provided some implementation suggestions that could enhance games and interactive entertainment. Animation is becoming an essential requirement for most interactive entertainment applications, the paper by J. Qiu et al., "Auto coloring with enhanced character registration," presented an autocoloring algorithm using an enhanced-character registration technique. The approach presented can be used for practical animation sequence in achieving high-coloring accuracy.

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Special Issue on Fuzzy Logic Techniques for Clean Environment

Call for Papers

The fuzzy technique for clean energy, solar and wind energy, is the most readily available source of energy, and one of the important sources of the renewable energy, because it is nonpolluting and, therefore, helps in lessening the greenhouse effect. The benefits arising from the utilization of solar and wind energy systems can be categorized into two sections: energy saving and the decrease of environmental pollution. The clean energy saving benefits come from the reduction in electricity consumption and from using any conventional energy supplier, which can avoid the expenditure of fuel supply. The other main benefit of the renewable energy is the decrease of environmental pollution, which can be achieved by the reduction of emissions due to the usage of electricity and conventional power stations. Electricity production using solar and wind energy is of the main research areas at present in the field of renewable energies, the significant price fluctuations are seen for the fossil fuel in one hand, and the trend toward privatization that dominates the power markets these days in the other hand, will drive the demand for solar technologies in the near term. The process of solar distillation is used worldwide for arid communities that do not have access to potable water. Also some solar technologies provide other benefits beside power generation, that is, fresh water (using desalination techniques).

The main focus of this special issue will be on the applications of fuzzy techniques for clean energy. We are particularly interested in manuscripts that report the fuzzy techniques applications of clean energy (solar, wind, desalination, etc.). Potential topics include, but are not limited to:

- Solar power station
- Wind power
- Photovoltaic and renewable energy engineering
- Renewable energy commercialization
- Solar cities
- Solar powered desalination unit
- Solar power
- Solar power plants
- Solar systems (company)
- World solar challenge

- Seawater desalination to produce fresh water
- Desalination for long-term water security

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Manuscript Due	October 1, 2009
First Round of Reviews	January 1, 2010
Publication Date	April 1, 2010

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Special Issue on Machine Learning Paradigms for Modeling Spatial and Temporal Information in Multimedia Data Mining

Call for Papers

Multimedia data mining and knowledge discovery is a fast emerging interdisciplinary applied research area. There is tremendous potential for effective use of multimedia data mining (MDM) through *intelligent* analysis. Diverse application areas are increasingly relying on multimedia understanding systems. Advances in multimedia understanding are related directly to advances in signal processing, computer vision, machine learning, pattern recognition, multimedia databases, and smart sensors.

The main mission of this special issue is to identify state-of-the-art machine learning paradigms that are particularly powerful and effective for modeling and combining temporal and spatial media cues such as audio, visual, and face information and for accomplishing tasks of multimedia data mining and knowledge discovery. These models should be able to bridge the gap between low-level audiovisual features which require signal processing and high-level semantics. Original contributions, not currently under review or accepted by another journal, are solicited in relevant areas including (but not limited to) the following:

- Multiresolution-based video mining and features extraction
- Dimension reduction and unsupervised data clustering for multimedia content analysis tasks
- Mining methods and algorithms (classification, regression, clustering, probabilistic modelling), as well as association analysis
- Machine learning paradigms that perform spatial and temporal data mining
- Machine learning paradigms that allow for an effective learning of hidden patterns
- Object recognition and tracking using machine learning algorithms
- Interactive data exploration and machine learning discovery
- Mining of structured, textual, multimedia, spatiotemporal, and web data
- Application of MDM to contents-based image/video retrieval and medical data

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Special Issue on Artificial Intelligence in Neuroscience and Systems Biology: Lessons Learnt, Open Problems, and the Road Ahead

Call for Papers

Since its conception in the mid 1950s, artificial intelligence with its great ambition to understand intelligence, its origin and creation, in natural and artificial environments alike, has been a truly multidisciplinary field that reaches out and is inspired by a great diversity of other fields in perpetual motion. Rapid advances in research and technology in various fields have created environments into which artificial intelligence could embed itself naturally and comfortably. Neuroscience with its desire to understand nervous systems of biological organisms and system biology with its longing to comprehend, holistically, the multitude of complex interactions in biological systems are two such fields. They target ideals artificial intelligence has dreamt about for a long time including the computer simulation of an entire biological brain or the creation of new life forms from manipulations on cellular and genetic information in the laboratory.

The scope for artificial intelligence, neuroscience, and systems biology is extremely wide. The motivation of this special issue is to create a bird-eye view on areas and challenges where these fields overlap in their defining ambitions and where these fields may benefit from a synergetic mutual exchange of ideas. The rationale behind this special issue is that a multidisciplinary approach in modern artificial intelligence, neuroscience, and systems biology is essential and that progress in these fields requires a multitude of views and contributions from a wide spectrum of contributors. This special issue, therefore, aims to create a centre of gravity pulling together researchers and industry practitioners from a variety of areas and backgrounds to share results of current research and development and to discuss existing and emerging theoretical and applied problems in artificial intelligence, neuroscience, and systems biology transporting them beyond the event horizon of their individual domains.

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