Workshop: AI and Creativity in Entertainment

Axel Tidemann, Agnar Aamodt

HAL Id: hal-01758471
https://inria.hal.science/hal-01758471

Submitted on 4 Apr 2018

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Axel Tidemann and Agnar Aamodt

Department of Computer and Information Science
Norwegian University of Science and Technology
`tidemann@idi.ntnu.no, agnar@idi.ntnu.no`

1   Workshop objective

Many different artificial intelligence/machine learning concepts are driving mechanisms behind entertainment systems. Further, computational creativity (CC) is an area with increased focus within entertainment computing as well as AI. This workshop provides a forum where AI and creativity can be discussed within the context of entertainment computing and related areas, as described in the main conference call.

Entertainment and creativity are intrinsically linked, and different approaches address this combination. This include systems with predefined strategies for creative behaviours as well as systems that are able to be creative on-the-fly. CC focuses on the formalisms of how known concepts can be combined or tweaked in order to form novel solutions; a core research question then becomes how to perform these combinations/mutations in an intelligent manner. Both CC methods targeting creativity within and for the computer, as well as methods for helping humans to be more creative, are relevant here.

Of main interest for the workshop is the cross-pollination between artificial intelligence and computational creativity, in the context of entertainment systems. However, work focusing on either AI or CC is also of interest as long as the ties between the two method areas in some way are addressed and discussed.

So, the overarching themes of the workshop are the same as that of the main ICEC conference (e.g. health, education, media, sport, core areas of entertainment computing, including games) but with a focus on the AI&CC methodologies running at the core of such systems. Within this scope, more specific methods of relevance include (but are not limited to):

– Modeling, design, system architectures, and development methodologies
– Cognitive architectures and systems, bio-inspired architectures
– Machine learning, data mining including text mining, intelligent data analysis
– Situation interpretation, event detection, decision support
– Case-based, rule-based, and model-based reasoning
– Neural networks, evolutionary algorithms, swarm intelligence
– Natural language processing, language and speech generation
– Image understanding, image composition, video streaming
– Intelligent user interfaces, dialogue systems, interactivity

Within the scope of the workshop are also papers addressing Art and Entertainment, given that they have a methodology related to AI and/or CC. Art is of course creativity per se, and this line should foster discussions across various fields and disciplines, with a common theme of exploring the methodologies that govern the various manifestations (e.g. physical, visual, auditive) of such systems.

2 Background/relevance of workshop topic

The field of entertainment computing presents a plethora of possibilities when it comes to making use of the above-mentioned topics. This workshop will have a stronger focus on the underlying mechanisms that enable entertainment computing, and is therefore very relevant to the conference. Special focus is on the computational creativity part of entertainment computing, which is not part of the main conference.

3 Expected workshop outcomes

The workshop will encourage collaboration between the participants, which will hopefully lead to publications. Some focus will also be on skill development.

4 Expected number of participants

20-30.

5 Length of the workshop

Full day.

6 Workshop due dates

1st of August 2015: Deadline for workshop paper submission
21st of August 2015: Notification
1st of September 2015: Camera ready due
29th of September 2015: Workshop helt at ICEC 2015, Trondheim, Norway

7 Workshop chairs

Axel Tidemann, NTNU axel.tidemann@gmail.com
Agnar Aamodt, NTNU agnar@idi.ntnu.no
Odd Erik Gundersen, NTNU odderik@idi.ntnu.no

Note: Program Committee is being organized at the time of submission.

8 Organizer CV

Axel Tidemann received the M.S. and Ph.D. degrees in Computer Science from The Norwegian University of Science and Technology (NTNU), Norway, in 2006 and 2009, respectively. Since 2011, he is a Post-Doctoral Researcher with NTNU, supported by the "Next Generation Control Centres for Smart Grids" project. He researches the use of data driven and machine learning methods to do time series prediction. In addition, he has a focus on using machine learning to model human cognition.

Agnar Aamodt received the Ph.D. degree in Computer Science from The University of Trondheim, Norway, in 1991. He is a professor of Computer Science and Artificial Intelligence in the Department of Computer and Information Science, Norwegian University of Science and Technology. His main research area is artificial intelligence methods for decision-support systems, with a focus on interactive problem solving and experiential learning in knowledge-based systems.