

Recap of the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)

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■ *The Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment was held from October 11 to 14, 2011, on the campus of Stanford University near Palo Alto, California. The conference featured a research track, an industry track, a demo program, and three workshops. This report summarizes the conference and related activities.*

The Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) was held October 10–14, 2011, at Stanford University, adjacent to Palo Alto, California. AIIDE is a premier interaction forum for researchers in artificial intelligence and interactive entertainment. The conference, which includes a research and industry track as well as a demonstration program, aims at bringing together both academic and industrial communities for the purpose of idea exchange and networking.

For the first time in AIIDE's history, the main program of the conference was preceded by three workshops: Intelligent Narrative Technologies workshop, the workshop on Nonplayer Character AI, and the Artificial Intelligence in the Game Design Process workshop. All three attracted a substantial audience and led to exciting debates and fruitful discussions (figure 1). In total, 24 papers were presented in the three workshops. The Intelligent Narrative Technologies workshop included papers on story representation, dialogue generation, narrative visualization, and authoring interfaces for interactive narrative, and a panel on corpus-based approaches to modeling narrative. The Intelligent Narrative Technologies and the Nonplayer Character AI workshops shared a session on intelligent virtual characters. The Artificial Intelligence in the Game Design Process workshop was attended by a number of game industry AI programmers and included papers on automated design, procedural content generation, and intelligent tools for assisting in the game design process. This workshop also featured a panel on



Figure 1. Brainstorming at a Workshop.

how humans and machines can complement each other during the design process and a hands-on session on designing games with AI and procedurally generated content. The overall workshop program was successful due to the hard work of the cochairs of all workshops, their respective program committees, and attendees.

The main program featured 17 paper presentations, 17 posters, three demonstrations, and five invited speakers. The conference also hosted the second StarCraft AI competition, which, once again, was an exciting highlight of the conference. In addition, the conference had two panels on topics of relevance to the community: the first on the StarCraft AI competition and its implications on AI, and a second on data mining player behavior in games.

The main program started on Wednesday, October 12, 2011, with a highly anticipated talk by Bob Fitch from Blizzard Entertainment. The main figure behind the AI in the *StarCraft* and *WarCraft* series lifted the curtain and showed the inner workings of the pathfinding and combat algorithms in the renown series, as well as their evolution over the years. Fitch's talk was followed up with a session on planning in games. The afternoon opened with the second invited talk by Akhil Madhani, Walt Disney Company Research and Development. Full of exciting multimedia and a host of trivia, Madhani took the audience on a

walk through the backstage of Disney, showing the challenges of creating animatronic versions of Disney's movie characters such as WALL-E. While the current incarnations are puppeteered, there are numerous opportunities for AI controllers and assistants. After Madhani's talk, Michael Buro and David Churchill introduced the second AI StarCraft competition and presented two prerecorded exhibition games of the tournament winner playing against a strong amateur player. Both games were won by the human. The presentation was followed by a session on character agents. Workshop reports and a reception closed the day.

The reception featured an award presentation (figure 2) which recognized the best paper, the best student paper, and the best reviewer. The best paper award was awarded to Eun Ha, Jonathan Rowe, Bradford Mott, and James Lester of North Carolina State University for their use of Markov logic networks to infer player behavior in serious games. Grace Lin and Marilyn Walker received the best student paper award for their work on learning to generate stylized dialogue for virtual characters. The AIIDE program chair also presented an award for best reviewer. Paper reviewing is an essential part of the conference process. This year the award went to a group of people who reviewed as a team: Duane Szafron, Richard Zhao, Neesha Desai, Richard Gibson, Adel Lari, Jamie Schmitt, and Matthew Church of the University of Alberta.

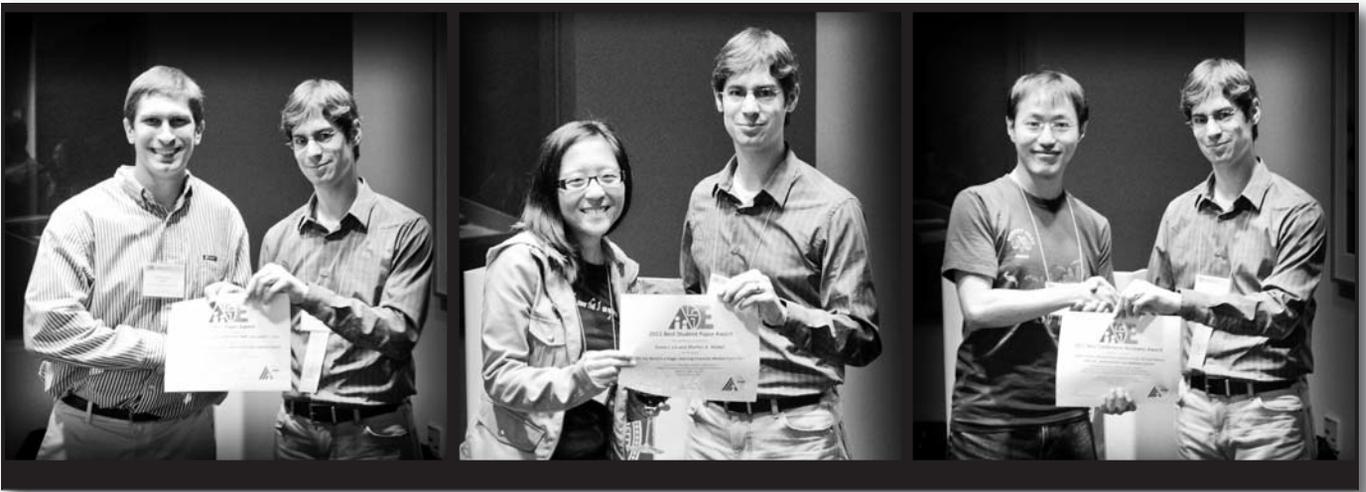


Figure 2. *Life's Good When You Win an Award.*

Left to right: Jon Rowe (NC State University), Grace Lin (University of California, Santa Cruz), Richard Zhao (University of Alberta), all accepting awards from Mark Riedl.



Figure 3. *The AIIDE Poster Session.*

Thursday started with an invited talk by Dan Kline and Lauren McHugh of EA/Maxis who energetically presented AI challenges in the game *Darkspore*. This was followed by a session on AI-assisted storytelling in video games. After lunch, Louis Gascoigne from AI talked about the AI in *Dead Space* and the challenges of balancing player's fun and intelligence of the AI-controlled nonplayable characters. His talk was followed by a session on machine learning and a panel on player modeling and games, data and human behavior (Nick Yee, PARC; Mike Marr, Novel Interactive; Carrie Heeter, Michigan State University). The panel was chaired by David Roberts, North Carolina State University. The day ended with a poster and demo session (figure 3).

The last day started with an invited talk by Robert Zubek of Zynga who talked about social gaming and its challenges. The following paper session focused on authoring tools for video game development. After lunch, Michael Buro

announced the results of the StarCraft AI competition and handed out the prizes. The panel discussion that followed was chaired by Vadim Bulitko (University of Alberta) centered on questions about whether the StarCraft AI is general enough to be useful in the quest for general machine intelligence and why humans are still able to defeat the best programs (figure 4).

In the following final session, four papers on recognizing player's actions were presented. Shortly after, the conference closed with an organizational meeting.

Acknowledgments

A large event such as AIIDE 2011 is a collective effort. Its success would not have been possible without extensive support from AAAI, including Carol Hamilton, Keri Harvey, and Corina Anzaldo-Vaughn. The workshops were coordinated by the workshop chair, Arnav Jhala (University of California Santa Cruz). The website and conference pro-



Figure 4. StarCraft AI Competition Awards Presentation and Panel Discussion.

Left to right: Michael Buro (University of Alberta), David Churchill (University of Alberta), Ben Weber (University of California, Santa Cruz), Brian Schwab (Blizzard).



The AIIDE Chairs.

Nathan Sturtevant, Michael Buro, Arnav Jhala, Mark Riedl, and Vadim Bulitko

motion were handled by the publicity chair, Nathan Sturtevant (University of Denver). The StarCraft AI competition was chaired by Michael Buro (University of Alberta) and sponsored by Blizzard Entertainment, Inc. The conference program

was organized by the program chair, Mark Riedl (Georgia Institute of Technology), and would not have been possible without many hours spent by the program committee of 58 reviewers. The conference was chaired by Vadim Bulitko (University of Alberta). Special thanks go to Brian Schwab of Blizzard Entertainment—a long-time supporter of the AIIDE conference series. We appreciate sponsorship by Blizzard Entertainment, the University of Alberta, and the Walt Disney Company.

The photographs for this report are all courtesy Vadim Bulitko.

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