Report on the Eighth International Conference on Computational Creativity

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■ *The Eighth International Conference on Computational Creativity (ICCC '17) was hosted at the Georgia Institute of Technology in Atlanta, Georgia, USA, June 19–23, 2017. The ICCC'17 organizing committee consisted of Ashok Goel (general chair), Kazjon Grace (workshop cochair), Matthew Guzdial (media chair), Mikhail Jacob (local chair), Anna Jordanous (program cochair), Ruli Manurung (workshop cochair), and Alison Pease (program cochair). This report summarizes the main topics addressed.*

Computational creativity (CC) is the art, science, philosophy, and engineering of computational systems which, by taking on particular responsibilities, exhibit behaviors that unbiased observers would deem to be creative. As a field of research, this area is thriving, with progress in formalizing what it means for software to be creative, along with many exciting and valuable applications of creative software in the sciences, the arts, literature, gaming, and elsewhere. The ICCC conference series, organized by the Association for Computational Creativity[1] since 2010, is the only scientific conference that focuses on computational creativity alone and also covers all its aspects. The Eighth International Conference on Computational Creativity (ICCC'17)[2] was hosted at the Georgia Institute of Technology in Atlanta, Georgia, USA, from June 19 to 23, 2017.

This was the third time the conference had been hosted in North America (Mexico City, ICCC'11; Park City, ICCC'15), and the Georgia Institute of Technology and local hosts provided extremely comfortable accommodation for everyone, furthering the traditional friendly and welcoming atmosphere of the conference.

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Main Conference

Thirty-four full papers were presented in a single track over three and a half days, as oral presentations, or posters and short talks, depending on the nature of the contribution. The papers were grouped by theme. A foundations session opened the conference with talks on application domains in CC, building a CC system, and teaching CC. A language session followed, looking at linguistic creativity in narrative and poetry. State-of-the-art conceptual blending techniques and applications were presented in the session on combinatorial creativity. The music session built on a colocated workshop on music and CC, and presented talks on new techniques for the automation of learning and cross-domain fertilization in music generation. A succession of nine short talks introduced work on a wide variety of domains, elaborated in posters, including dance, music, and narrative.

Cocreativity was a popular theme in the conference, with work in this theme considering human-machine interactions and benefits in both directions. Finally, the session on philosophical and psychological perspectives closed the conference, with deep work on philosophical themes such as intentionality and self-awareness.

The first talk kicked off with an analysis of the field, highlighting the lack of papers on mathematical and scientific creativity: underrepresented domains proved to be a recurring theme of the conference. Another theme threading through the talks was the need for widening participation in the CC community, to engage with related disciplines, with researchers from a wider variety of cultures and institutions, and with people working in industry. The social aspects of CC and the ways in which CC can be used to improve lives was another compelling theme, kick-started by organizers of the Workshop on Computational Creativity and Social Justice, held immediately prior to the conference and organized by Gillian Smith, Dan Brown, and Anne Sullivan. Discussions based on Tony Veale's popular tagline for ICCC'12 — "Scoffing at mere generation for more than a decade" — questioned whether "mere generation" is really so terrible. In particular, it can be a way of broadening the appeal of and participation in CC events, and of furthering industry engagement.

The Keynote Speakers

Milena Fisher, cofounder and president of The Creativity Post, gave a keynote that in some ways picked up the baton from the first speaker, emphasizing the need for collaboration with other fields and disciplines, paving the way for further discussion of the topic in the panel sessions.

Gil Weinberg from the School of Music Technology at Georgia Tech held everyone spellbound with

his ventures through 20 years of truly inspiring work in musical creativity, including robot dancers, autonomous drummer collaborators, and musically intelligent limbs for musicians with injured or missing limbs.

The Panels

Two panels were held, on Computational Creativity and Design and on Computational Creativity and Discovery. The Design panel stressed the importance of design interaction and HCI for CC, offering a set of practices and methodologies for crafting enjoyable interactive experiences, where that interaction may be with other people, with technology, or with objects. With an emphasis on cocreativity rather than autonomous machine creativity, these complementary disciplines will be ever more relevant. New and recent models of human-computer cocreativity were raised, extending previous models of computer as nanny, pen pal, coach, assistant, and colleague. The Discovery panel discussed philosophical aspects of how exploration relates to discovery in terms of navigating a search space, and related topics of serendipity, intention, recognition, and generation. The feeling was that discovery is a major part of the creative process that is getting somewhat overlooked and deserves more attention.

Prizes

The ICCC 2017 conference organizers gave several awards, including one for best paper and one for best student paper.

Taking the award for best paper was Tony Veale's

Déjà Vu All Over Again: On the Creative Value of Familiar Elements in the Telling of Original Tales. In it, Veale explores how fictional characters can be reused creatively in new contexts for ironic, comedic, or surprising purposes, further adding to the debate on generation versus evaluation in CC by controversially arguing that a creative act can occur without generation. The runner-up for best paper went to the first published advice on how to teach CC, by Margareta Ackerman, Ashok Goel, Colin Johnson, Anna Jordanous, León Carlos, Rafael Pérez y Pérez, Hannu Toivonen, and Dan Ventura, with their Teaching Computational Creativity.

The award for the best student paper went to Simo Linkola, Anna Kantosalo, Tomi Männistö, and Hannu Toivonen for their model of computational metacreativity in Aspects of Self-Awareness: An Anatomy of Metacreative Systems.

The runner-up for best student paper went to Mason Bretan, Gil Weinberg, and Larry Heck for their popular A Unit Selection Methodology for Music Generation Using Deep Neural Networks.

Satellite Events

This conference included a record number of satellite events related to creativity and computers. Three workshops were held: Musical Metacreation, Computational Creativity and Games, and Computational Creativity and Social Justice. Two tutorials — Literary Creativity and Narrative Generation, and Tweet Dreams Are Made of This: Building Creative Twitterbots — were also help, along with a Doctoral Consortium.

Conclusion

The conference closed with a community meeting, and a healthy debate on future directions of the field. Widening participation in many areas was thought to be important — online as well as offline, industrial as well as academic, in scientific fields as well as artistic arenas. It was announced that the 2018 ICCC conference[3] will be held in Salamanca, Spain (June 25–29 2018) with the ceremonial Mexican shaker being passed along to the next chair. ICCC'19 will be back in the USA.

With a new journal in the pipeline and an increasing number of satellite events and related conferences, a creative future looks hopeful. This push to creativity will be enhanced by establishing links with industry to build on academic ideas and by cementing new relationships with colleagues from underrepresented countries and domains.

The ICCC 2017 conference was sponsored by the US National Science Foundation, the *Artificial Intelligence Journal,* the Georgia Institute of Technology, the Georgia Tech GVU Center, and the Association for Computational Creativity.

Notes

1. www.computationalcreativity.net
2. www.computationalcreativity.net/iccc2017
3. www.computationalcreativity.net/iccc2018

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