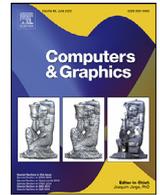




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## Editorial

## Foreword to special section on motion, interactions and games



This special section presents expanded versions of three of the best papers [1–3] that were originally presented at Motion Interaction and Games 2019, held in Newcastle upon Tyne, UK, on 28–30 October 2019.

Motion is currently studied in many different areas of research, including graphics and animation, game technology, robotics, simulation, computer vision, and also physics, psychology, and urban studies. Cross-fertilization between these communities can considerably advance the state-of-the-art in the area. The Motion, Interaction and Games conference brings together researchers from this variety of fields to present their most recent results, to initiate collaborations, and to contribute to the establishment of the research area. 2019 was the 12th edition of the conference.

This year, we received a record number of 71 high-quality submissions. We accepted 22 long papers and 14 short papers. Authors of selected best papers were invited to submit extended versions that contain at least 30% new content, which could consist of additional new results and experiments, substantial extensions, analysis and discussions. Revised manuscripts also take into account suggestions of changes from the reviewers of the original paper and feedback from conference attendees.

Authors cite the conference version and explicitly indicate the value and content added. Each special section submission was reviewed by a minimum of three reviewers, with partial reviewing continuity from the original conference version. Three invited submissions were accepted for inclusion in this special section.

Basset et al. [4] addresses the problem of motion retargetting focusing on avoiding undesirable self-intersections that may occur due to the differences between the shapes of the models. This paper presents an optimization based method for motion retargetting that integrates the collision problem in the optimization and thus is able to retarget complex poses avoiding undesired self-intersections and maintaining correct contacts.

Ferstl et al. [5] addresses the problem of non-verbal behaviour in virtual agents, specifically matching hand gestures with speech using adversarial training and deep neural networks. The proposed technique replaces the more standard regression loss with a multi-discriminator adversarial design that allows the gesture generation problem to be divided into smaller sub-problems that are easier to train.

van Toll et al. [6] addresses the problem of agent navigation in virtual environments. This paper proposes a novel topology-driven method that frames an agent's navigation behaviour as a topological strategy amidst obstacles and other agents. The paper also pro-

poses a simulation framework that uses these strategies for path planning, path following, and collision avoidance.

We would like to thank the Motion, Interaction and Games 2019 general chairs Hubert P. H. Shum and Edmond S. L. Ho, all the local chairs, the committee members, all the paper reviewers, and in particular we thank the reviewers of the extended versions for providing detailed and thoughtful feedback that helped ensure the quality of the final papers. We are also grateful to all of the presenters and authors for submitting their work, ensuring the continuation of Motion, Interaction and Games as a valuable international conference for the dissemination of new techniques and original ideas. Finally, we are grateful for the help of Joaquim Jorge in making this special section of Computers and Graphics possible.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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