

2016 年度湘南藤沢学会 「研究助成基金」 成果報告書

Participation icSports 2016

(4th International Congress on Sport Sciences Research and Technology Support)

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Activity Details:

Date: November 7-9, 2016

Place: Holiday Inn Porto Gaia, Porto, Portugal

Purpose of Activity:

The purpose of this activity was to present research results that were an essential part of my PhD studies to a broad, international audience. The hope was to compete for the conference's 'Best Student Paper Award' by the presentation of highly innovative research conveyed via a high quality paper and an excellent presentation. I was furthermore offered the opportunity to act as a session chair, a task which I felt honored to be selected for and that I accepted with pride.

Besides, discussions with colleagues and researchers from all over the world throughout the congress should help me to gain new input for the final part of my work and enable me to grow and develop as a future researcher. They were furthermore thought to eventually open up new possibilities for research collaboration and exchange.

Research Contents:

In this research, I developed a wearable, augmented motion feedback system for ubiquitous training and motion assessment in mid-level ski jumping. Ski jump motion data captured with a set of inertial sensors were first transformed into meaningful kinematic motion information using an extensive processing system. Next, derived segment orientations, joint positions and joint angles were used to build and train motion knowledge on the base of the sport's common style and judging criteria. This intelligent machine knowledge was then applied to identify specific style information within incoming motion data that could be provided to the athlete as augmented motion feedback via a mobile training application.

Results of Activity:

After arrival in Portugal, I directly completed my conference registration at the conference's welcome and registration desk, where I received my conference badge and all necessary documents for the additional activity as session chair. My presentation was a 30min oral presentation on November 7th. It was scheduled to be the first presentation after the conference's opening session and an interesting

key note lecture. Therefore, I had the chance to speak in front of a broad, interested and attentive audience, which confronted me with many detailed questions after my talk and throughout the rest of the day.

I attended several further interesting talks during the conference, whereas especially the research presented during the session I chaired was of interest to me. Here, the focus was set on the development of judging support tools, which was also the biggest objective and interest of my own PhD research. For this reason, I could prepare many questions and engage in interesting discussions with the presenting authors. This additional activity consequently made me learn and experience a lot, and I am happy that I was provided with this opportunity by the conference organizers.

Before my departure to Portugal, the conference organization asked me to attend the closing session, since my conference contribution was nominated for the 'Best Student Paper Award'. Unfortunately, the award was given to another PhD student in the end. However, I feel happy that my contribution was nominated and hence considered to be a high quality work in my field of studies.

Utilization of Results:

During the conference's lunches and coffee breaks, I had the chance to exchange ideas with a wide range of colleagues, ranging from master and PhD students to professors and company representatives. Although no immediate collaboration resulted from those discussions, I got to know researchers working in a similar field as me and that could become useful contacts in future. This is mainly due to the following three reasons. Firstly, I am always interested to learn about the different perspectives and ideas from people all over the world. Academic system - and especially a PhD - is recognized differently in many countries, and every discussion with another, similarly involved person helps me a lot to better understand and accept my own role here in Japan. Secondly, I was confronted with new perspectives and ideas on my own work that I want to incorporate in an additional thesis chapter or section in a final journal publication. Lastly, I hope to continue a more specific way of scientific exchange and promotion of my own research with the help of the newly acquired contacts: this year, I gave five guest lectures in research institutions in Germany, Australia and France that initially originated from contacts made during conference networking. I therefore plan to maintain contacts to all researchers that conduct interesting and related work, to hopefully then directly exchange with them via lectures and guest visits in the following years to come.

Acknowledgement:

I would like to thank the Keio SFC Academic Society for the financial support that enabled me to carry out the previous research activity.