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Re: Dr. Wei Cai's application for ACM Doctoral Dissertation Award

Dear ACM Doctoral Dissertation Award Committee,

It is my pleasure to offer my full support for Dr. Wei Cai's nomination for an ACM Doctoral Dissertation Award.

The doctoral dissertation completed by Wei focuses on Cloud Gaming. This is a hot emerging topic that involves research challenges in video processing/streaming, gaming, and cloud computing technologies. Cloud Gaming is already a huge market sector, with revenues of \$476 million in 2015, expecting to rise to \$650 million by end of 2020, and already available as commercial products such as Sony's PlayStation Now, Valve's Steam, Ubitus's GameNow, G-Cluster, Crytek's GFACE, PlayGiga, and LiquidSky, to name a few. So the topic is of great interest to both academia and industry, with both theoretical and practical aspects.

I served as the external examiner for Wei's doctoral examination. I was very pleased as I went through the thesis, because it provides an excellent study with excellent contributions. The dissertation provides a sufficiently deep presentation of the related work, clear motivation and presentation of the problems he wants to solve, full description of his proposed methods, performance evaluations in the form of both simulations and testbed experiments, and finally analysis and interpretations of the results. In my opinion, it is an outstanding Ph.D. thesis.

The dissertation's contribution to the body of knowledge is indisputable, as also evident from the impressive list of publications in top world journals and conferences. Considering that cloud gaming is a fast-growing business, the impact of the thesis is potentially high. Moreover, the proposed cooperative encoding and dynamic offloading techniques can also be applied to other live interactive cloud-based video applications as well, and are not limited to only cloud gaming. In particular, the test-bed implemented for the decomposed software architecture is a pioneering work in this field and has potential to create killer future applications.

For these reasons, I would strongly recommend Wei's dissertation for an ACM Doctoral Dissertation Award. Don't hesitate to contact me if you require more information.

Sincerely,

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