CEAS DOCTORAL GRAD WINS PRESTIGIOUS SPEC DISSERTATION AWARD

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The Standard Performance Evaluation Corporation (SPEC) Distinguished Dissertation Award is given each year to a doctoral dissertation which exemplifies scientific significance, impact and originality. Stony Brook University’s (SBU) own Yufei Ren was chosen as the winner for 2015 from amongst fifteen phenomenal dissertations from institutions across the globe.

Yufei recently earned his PhD from the Department of Electrical and Computer Engineering and is a member of the Institute of Advanced Computational Science at SBU. His thesis advisor, Dr. Dantong Yu, nominated Yufei’s dissertation, Scalable End-to-End Data I/O over Enterprise and Data-Center Networks, for the SPEC honor. Dr. Ren’s thesis committee also consisted of professors Yuanyuan Yang, Fan Ye, Michael Bender, and Dr. Shudong Jin.

Yufei conducted his research at Brookhaven National Laboratory under the Computational Science Initiative. His dissertation focused on an intelligent hybrid approach of system off-load and the Non-uniform memory access (NUMA) aware scheduling to improve data I/O (input/output), data sharing, and data streaming. Yufei’s research resulted in a middleware that takes advantage of Remote Direct Memory Access (RDMA) techniques to attain high network throughput. Based on this middleware, an RDMA-based File Transfer Protocol service, RFTP, is now available for public evaluation and use. His work lays a foundation for the joint effort between Brookhaven National Laboratory and Stony Brook University to pursue Department of Energy’s exascale initiative that is essential and transformative, and provides quantum advances, in areas of science, technology, and sustainable society. In particular, Yufei provides a promising solution of data communication that is commensurate with exascale computing. Yufei’s work at Brookhaven was supported through a U.S. Department of Energy grants.

Now working as a research scientist at IBM T.J. Watson Research Center, Yufei is not the only scientist with ties to Stony Brook to win this prestigious award. In 2013, SPEC chose the dissertation of Dr. Anshul Gandhi, who is now a tenure track professor of Computer Science at the University. Dr. Gandhi’s thesis was on Dynamic Server Provisioning for Data Center Power Management. Like Yufei, Gandhi also worked at the IBM T.J. Watson Research Center.

The SPEC Research Group selection committee was headed by University of Texas at Austin’s Professor Lizy Kurian John. The award was established in 2011 to recognize outstanding
dissertations that fall within the scope of the Group. In their review, the committee noted that they “particularly appreciated the “insights presented in this dissertation for improving data-intensive applications in data centers from a holistic perspective”.

Everyone from across the College of Engineering and Applied Sciences congratulates Dr. Ren, and looks forward to witnessing the illustrious career that he surely has ahead of him. With Yufei’s example empowering current SBU students of all levels, another future distinguished dissertation winner may already be amongst us.

by Michael Curatola