

Design Exploration of FPGA-based Accelerators for Deep Neural Networks

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City University of Hong Kong
83 Tat Chee Avenue
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ABSTRACT

Deep Neural Networks (DNNs) have been widely employed for different areas like face recognition, image classification, etc. Recently, various accelerators for DNNs have been proposed on the FPGA platform because it has advantages of high performance, reconfigurability, fast development round, etc. In this talk, I will introduce our recent research work on how to efficiently implement DNNs on FPGA based platforms. First, we propose an analytical design scheme to help us quantitatively explore the design space of DNN accelerators on single/multiple FPGA boards. Then, we design a hardware/software co-designed flow, which can be integrated with deep learning frameworks (e.g. Caffe and Tensorflow) to facilitate the DNN accelerator design on FPGAs.

BIOGRAPHY

Dr Guangyu Sun received his B.S. and M.S degrees from Tsinghua University, Beijing, in 2003 and 2006, respectively. He received his Ph.D. degree in Computer Science from the Pennsylvania State University in 2011. He joined the faculty of Center for Energy-Efficient Computing and Applications (CECA), School of EECS at Peking University from August 2011. His research interests include computer architecture, application-specific accelerator design, and storage systems. Guangyu Sun is serving as an associate editor of ACM TECS and ACM JETC and he is a member of CCF, IEEE, and ACM.

All are welcome!



In case of questions, please contact Dr XUE Chun Jason at Tel: 3442 9815, E-mail: jasonxue@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/news/seminars/seminars.html>.

