

Yuduo Wu

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EDUCATION

University of California, Davis	Davis, CA
Master of Science, Electrical and Computer Engineering	2013-2015
Advisor: Professor John D. Owens	
Research: Parallel Computing (GPGPU), Graph Analytics	
Thesis: "Performance Characterization of High-Level Programming Models for GPU Graph Analytics"	
Macau University of Science and Technology	Taipa, Macau
Bachelor of Science, Electronic Information Technology	2009-2013

EMPLOYMENT

Software Engineer	Sept 2015-
IBM, Cloud Division, San Jose, CA	
- Write robust server- and client-side code for IBM Bluemix platform based cloud software applications	
- Define, implement, and maintain scalable REST APIs, command line interface in Python and Golang	
- Design and develop health check, backup and metrics monitoring for service reliability and analytics	
- Analyze, optimize and dramatically reduce the latency ($\sim 30\text{-}50\%$) of the response times for the APIs	
Graduate Student Researcher	Dec 2013-Sept 2015
Department of Electrical and Computer Engineering, University of California, Davis, CA	
- Implemented Boruvka's parallel minimum spanning tree (MST) algorithm on GPU with C++/CUDA	
- Achieved up to $\sim 120\times$ speedups against a popular serial C++ implementation (Boost graph library)	
- Contributed to an open source project (Gunrock) for high-performance large-scale graph processing	
- Analyzed and characterized GPU graph analytics parallel programming models and their trade-offs	
Internship (xDATA Summer Workshop)	Jun-Sept 2014, 2015
Defense Advanced Research Projects Agency (DARPA), Arlington, VA	
- Built an easy-to-use pure C and simple Python interfaces for Gunrock to facilitate external developers	
- Implemented graph algorithms to compute attributes to generated JSON used for data visualizations	

AWARDS & HONORS

IBM Manager's Choice Award , IBM	May 2016
Distinguished Paper Award , Principles and Practice of Parallel Programming (PPoPP'16)	Mar 2016
IBM Solutions Excellence Award (EA) , IBM	Dec 2015
Best Paper Finalist , IEEE International Symposium on Workload Characterization (IISWC'15)	Oct 2015
Dean's Honor List Scholarship , Macau University of Science and Technology	Sept 2011, 2012, 2013
Crystal Cup Award , Top 3 in GPA, Macau University of Science and Technology	Sept 2011, 2012, 2013
Nam Kwong Academic Year Scholarship , Nam Kwong (Group) Co., Ltd, Macau	Sept 2012

SKILLS

Familiar: Python, C/C++, Golang, Git, L^AT_EX, Shell/Bash scripting, Unix/Linux, JavaScript
Prior Experience: CUDA, R, Java, Haskell, MATLAB, MySQL, Caffe, Spark, Node.js, Scala

CERTIFICATIONS

Scala Programming for Data Science , IBM	Aug 2016
Big Data Spark Foundations , IBM	Jun 2016
API Management Concepts , IBM	May 2016
edX Verified Certificate for Scalable Machine Learning , edX	July 2015

PUBLICATIONS

Refereed Publications

Yangzihao Wang, Andrew Davidson, Yuechao Pan, Yuduo Wu, Andy Riffel, and John D. Owens. “Gunrock: A High-Performance Graph Processing Library on the GPU”. In *Proceedings of the 21st ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*, PPOPP 2016, pages 11:1-11:12. March 2016. Distinguished Paper.

Yuduo Wu, Yangzihao Wang, Yuechao Pan, Carl Yang, and John D. Owens. “Performance Characterization of High-Level Programming Models for GPU Graph Analytics”. In *IEEE International Symposium on Workload Characterization*, IISWC 2015, pages 66-75. October 2015. Best Paper finalist.

Other Publications

Yuechao Pan, Yangzihao Wang, Yuduo Wu, Carl Yang, and John D. Owens. “Multi-GPU Graph Analytics”. CoRR, abs/1504.04804(1504.04804v2), April 2016.

Yuduo Wu. “Performance Characterization of High-Level Programming Models for GPU Graph Analytics”. *ProQuest (Master’s thesis at University of California, Davis)*, September 2015.

LEADERSHIP & SERVICE

Vice President	2012-2013
IEEE Student Branch of Macau University of Science and Technology Managed IEEE student members and organized academic activities.	
Coordinator	2011-2012
Macau Volunteer Group Volunteered to teach rural elementary students and organized voluntary work.	