

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

IBM , Software Engineer, San Jose, CA	Sept 2015 -
- 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	
University of California Davis , Graduate Student Researcher, Davis, CA	Dec 2013 - Sept 2015
- 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	
DARPA , Internship (xDATA Workshop), Arlington, VA	Jun - Sept 2014, Jun - Sept 2015
- Built an easy-to-use pure C and simple Python interfaces for Gunrock to facilitate external developers	
- Implemented graph algorithms and compute attributes to generate JSON used for data visualizations	

TECHNOLOGY SUMMARY

Familiar: Python, C++, Golang, Git, \LaTeX , Shell/Bash scripting, Unix/Linux, JavaScript
Prior Experience: CUDA, R, Java, Haskell, PHP, MATLAB, MySQL, Caffe, Scala, React.js

AWARDS & HONORS

IBM Manager's Choice Award , IBM	May 2016, Sept 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

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

Yangzihao Wang, Yuechao Pan, Andrew Davidson, **Yuduo Wu**, Carl Yang, Leyuan Wang, Muhammad Osama, Chenshan Yuan, Weitang Liu, Andy T. Riffel, and John D. Owens. “Gunrock: GPU Graph Analytics”. *CoRR*, *abs/1701.01170(1701.01170v1)*, January 2017.

Yuechao Pan, Yangzihao Wang, **Yuduo Wu**, Carl Yang, and John D. Owens. “Multi-GPU Graph Analytics”. In *Proceedings of the 31st IEEE International Parallel & Distributed Processing Symposium, IPDPS’17*, May 2017.

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’16*, 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’15*, pages 66-75. October 2015. **Best Paper finalist**.

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

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