

# Yuduo Wu

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## EDUCATION

<b>University of California, Davis</b>	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"	
<b>Macau University of Science and Technology</b>	Taipa, Macau
Bachelor of Science, Electronic Information Technology	2009-2013

## EMPLOYMENT

<b>Software Engineer</b>	Sept 2015-
IBM, Cloud Division, San Jose, CA	
- Build robust server and client side code for IBM Bluemix platform based cloud applications	
- Design and implement REST APIs, command line interface Microservices in Python and Golang	
- Develop OpenStack-powered DNS, security groups, and private network peering services	
<b>Graduate Student Researcher</b>	Dec 2013-Sept 2015
Department of Electrical and Computer Engineering, University of California, Davis, CA	
- Implemented Boruvka's parallel minimum spanning tree algorithm on GPU with C++/CUDA	
- Achieved up to 120X speedup against a popular serial implementation (Boost graph library)	
- Developed and maintained an open source library (Gunrock) for large-scale graph analytics	
- Characterized and analyzed GPU graph analytics' high-level parallel programming models	
<b>Summer Internship (xDATA Workshop)</b>	Jun-Sept 2014,2015
Defense Advanced Research Projects Agency (DARPA), Arlington, VA	
- Built high-level pure C and Python interfaces for Gunrock to facilitate external developers	
- Implemented graph algorithms to compute attributes and generated JSON for visualization	

## AWARDS & HONORS

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

## SKILLS

Familiar with: Python, C/C++, Golang, Git, L<sup>A</sup>T<sub>E</sub>X, Shell/Bash scripting, JavaScript, Unix/Linux  
Prior Experience: CUDA, R, Java, Haskell, MATLAB, MySQL, Caffe, Spark, Node.js, Scala

## CERTIFICATIONS

<b>Big Data Spark Foundations</b> , IBM	Jun 2016
<b>API Management Concepts</b> , IBM	May 2016
<b>edX Verified Certificate for Scalable Machine Learning</b> , 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

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