Yangzihao Wang

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Education

Ph.D., Computer Science, University of California, Davis. **2011–2016**
Advisor: Prof. John D. Owens
dissertation: Gunrock: A Programming Model and Implementation for Graph Analytics on Graphics Processing Units

M.E., Software Engineering, Beihang University. **2008–2011**

B.E., Computer Science, Beihang University. **2003–2007**

Honors and Awards

2016: Distinguished Paper Award, ACM SIGPLAN PPoPP

2014: NVIDIA Graduate Fellowship Finalist

Experience Highlights

Senior Software Engineer, Tencent Technology (Beijing) Co., Ltd.. **Jul-2018–Present**
Lead developer on high performance distributed ML platform.

Software Engineer, Google Brain. **Jan-2017–May-2018**
TensorFlow infrastructure and GPU performance.

Graduate Student Researcher, Institute of Data Analysis and Visualization, UC Davis. **Aug-2011–Dec-2016**
Research Topics: structure of parallelism in irregular algorithms on the GPU; programming model for graph analytics on the GPU.

Research Assistant, State Key Lab of Virtual Reality Technology and Systems, Beihang University. **Aug-2009–Mar-2011**
Designed and implemented a sort-first cluster rendering system. Worked on several graphics research topics such as water wave simulation, collision detection, and rendering load balancing.

Professional Skills

Proficient:: C/C++, CUDA, TensorFlow, Python, MPI, LaTeX, git, Linux development

Familiar:: OpenGL, Spark

Professional Service

Conference/Journal Reviewer:: TC, TPDS, JDPC, PeerJ, PLDI'18

Program Committee Member::

The 1st GPUTech Workshop at ICCSA 2016

Graph Algorithms Building Blocks Workshop at IPDPS 2018

Workshop on Graphs, Architectures, Programming, and Learning at IPDPS 2019

Publications

Xianyan Jia, Shutao Song, Wei He, Yangzihao Wang, Haidong Rong, Feihu Zhou, Liqiang Xie, Zhenyu Guo, Yuanzhou Yang, Liwei Yu, Tiegang Chen, Guangxiao Hu, Shaohuai Shi, and Xiaowen Chu. Highly scalable deep learning training system with mixed-precision: Training imagenet in four minutes. In *Workshop on Systems for ML and Open Source Software*, NeurIPS 2018, December 2018.

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. *ACM Transactions on Parallel Computing*, 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 and Distributed Processing Symposium*, IPDPS 2017, May/June 2017.

Yangzihao Wang, Sean Baxter, and John D. Owens. Mini-gunrock: A lightweight graph analytics framework on the GPU. In *Graph Algorithms Building Blocks*, GABB 2017, May 2017.

Leyuan Wang, Yangzihao Wang, Carl Yang, and John D. Owens. A comparative study on exact triangle counting algorithms on the GPU. In *Proceedings of the 1st High Performance Graph Processing Workshop*, HPGP '16, May 2016.

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, March 2016. Distinguished Paper.

Yuduo Wu, Yangzihao Wang, Yuechao Pan, Carl Yang, and John D. Owens. Performance characterization for high-level programming models for GPU graph analytics (best paper finalist). In *IEEE International Symposium on Workload Characterization*, IISWC 2015, October 2015. Best Paper finalist.

Carl Yang, Yangzihao Wang, and John D. Owens. Fast sparse matrix and sparse vector multiplication algorithm on the GPU. In *Graph Algorithms Building Blocks*, GABB 2015, May 2015.

Afton Geil, Yangzihao Wang, and John D. Owens. WTF, GPU! Computing Twitter's who-to-follow on the GPU. In *Proceedings of the Second ACM Conference on Online Social Networks*, COSN '14, October 2014.