YUKE WANG

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EDUCATION

Ph.D. candidate, Computer Science. GPA: **3.92**/**4.00** 09/2018 – Now
University of California, Santa Barbara

B.E. Software Engineering. GPA: **3.93**/**4.00**, Rank: **10**/**759** 07/2018
University of Electronic Science and Technology of China

SKILLS

Languages: Python, C/C++, CUDA C, Linux Shell.
Tools: Pytorch, Tensorflow, Latex.

EXPERIENCE HIGHLIGHT

Rich hands-on experience on: 1) designing and optimizing GPU kernels for **Graph Neural Networks**, such as GCN and GraphSage; 2) optimizing **Deep Neural Networks**, such as ResNet and VGG, at the algorithmic level and system level;

INTERNSHIP

High-Performance Engineer Intern, NVIDIA, US. 06/2021 – 09/2021
High-performance computational framework support for genomics applications.

Research Intern, Alibaba, US. 07/2020 – 10/2020
Compiler framework and runtime system for Graph Neural Networks (GNNs) acceleration on GPUs.

PUBLICATIONS

[PPoPP'22] ***Yuke Wang**, *Boyuan Feng, Yufei Ding. ***QGTC: Accelerating Quantized GNN via GPU Tensor Core** *ACM SIGPLAN Annual Symposium on Principles and Practice of Parallel Programming. $*$: equal contribution.*

[CIKM'21] **Yuke Wang**, Boyuan Feng, Xueqiao Peng, Yufei Ding. ***An Efficient Quantitative Approach for Optimizing Convolutional Neural Networks.*** *ACM International Conference on Information and Knowledge Management. (**Spotlight Presentation**)*

[SC'21] *Boyuan Feng, ***Yuke Wang**, Yufei Ding. ***APNN-TC: Accelerating Arbitrary Precision Neural Networks on Ampere GPU Tensor Cores*** *The International Conference for High Performance Computing, Networking, Storage, and Analysis. $*$: equal contribution.*

[OSDI'21] **Yuke Wang**, Boyuan Feng, Gushu Li, Shuangchen Li, Lei Deng, Yuan Xie, Yufei Ding. ***GNNAdvisor: An Efficient Runtime System for GNN Acceleration on GPUs.*** *USENIX Symposium on Operating Systems Design and Implementation*.

[USENIX ATC'21] Boyuan Feng, **Yuke Wang**, Gushu Li, Yuan Xie, Yufei Ding. ***Palleon: A Runtime System for Efficient Video Processing toward Dynamic Class Skew.*** *USENIX Annual Technical Conference.*

[CCGrid'21] **Yuke Wang**, Boyuan Feng, Gushu Li, Georgios Tzimpragos, Lei Deng, Yuan Xie, Yufei Ding. ***TiAcc: Triangle-inequality based Hardware Accelerator for K-means on FPGAs.*** *IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing.*

[ICASSP'21] Boyuan Feng, **Yuke Wang**, Yufei Ding. ***Sparse Adversarial Attack on EEG-based Brain Computer Interface***. *IEEE International Conference on Acoustics, Speech, Signal Processing.*

[AAAI'21] Boyuan Feng, **Yuke Wang**, Yufei Ding. ***UAG: Uncertainty-aware Attention Graph Neural Network for Defending Adversarial Attacks.*** *AAAI Conference on Artificial Intelligence.*

[PPoPP'21] Boyuan Feng, **Yuke Wang**, Guoyang Chen, Weifeng Zhang, Yuan Xie, Yufei Ding. ***TCVM: Accelerating Scientific Computing on Tensor Cores with Extended Precision.*** *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*

[IPDPS'21] **Yuke Wang**, Boyuan Feng, Yufei Ding. ***DSXplore: Optimizing Convolutional Neural Networks via Sliding-Channel Convolutions.*** *IEEE International Parallel & Distributed Processing Symposium*.

[TCAD'21] **Yuke Wang**, Boyuan Feng, Gushu Li, Lei Deng, Yuan Xie, Yufei Ding. ***STPAcc: A Compiler-based Framework for Accelerating Distance Algorithms on CPU-FPGA Platforms.*** *IEEE Transactions on Computer Aided Design of Integrated Circuits & Systems.*

[TCAD'21] Xiaobing Chen, **Yuke Wang**, Xinfeng Xie, Xing Hu, Abanti Basak, Ling Liang, Mingyu Yan, Lei Deng, Yufei Ding, Zidong Du, Yunji Chen, Yuan Xie. ***Rubik: A Hierarchical Architecture for Efficient Graph Learning.*** *IEEE Transactions on Computer Aided Design of Integrated Circuits & Systems.*

[ICTAI'20] *Boyuan Feng, ***Yuke Wang**, Xu Li, Shu Yang, Xueqiao Peng, Yufei Ding. ***SGQuant: Squeezing the Last Bit on Graph Neural Networks with Specialized Quantization.*** *International Conference on Tools with Artificial Intelligence.* $*$*: equal contribution.*

[ICML'20] Liu Liu, Lei Deng, Zhaodong Chen, **Yuke Wang**, Shuangchen Li, Jingwei Zhang, Yihua Yang, Zhenyu Gu, Yufei Ding, Yuan Xie. ***Boosting Deep Neural Network Efficiency with Dual-Module Inference.*** *International Conference on Machine Learning.*

[FCCM'19] **Yuke Wang**, Zhaorui Zeng, Boyuan Feng, Lei Deng, Yufei Ding. ***KPynq: A Work-Efficient Triangle-Inequality based K-means on FPGA***. *IEEE Symposium on Field-Programmable Custom Computing Machines.*

HONORS & AWARDS

2022-2023 NVIDIA Graduate Fellowship	11/2021
2021 ACM PACT Student Research Competition (First Prize Winner)	10/2021
2021 SIGIR Student Travel Grant	09/2021
2020-2021 Outstanding Publication Award in CS Department of UCSB	06/2021
2020 Summer GSR recipient in CS Department of UCSB	06/2020
2019 Summer GSR recipient in CS Department of UCSB	06/2019
Outstanding Graduates Award of UESTC	10/2017
First-class People's Scholarship (2/20 in the Elite Program)	10/2017
Interdisciplinary Contest In Modeling (ICM) [Honorable Mention]	04/2017
Suzhou Industrial Zone Scholarship (2/20 in the Elite Program)	04/2017
International Software Testing Qualifications Board (Certified Tester) [Foundational Level]	10/2016
First-class People's Scholarship (4/116)	04/2016

PROFESSIONAL SERVICES

ASPLOS'22 Artifact Evaluation Committee Member	11/2021
SOSP'21 Graduate Student Mentor	10/2021

Artifical Intelligence Review Paper Reviewer	10/2021
Journal of Supercomputing Paper Reviewer	10/2021
SOSP'21 Artifact Evaluation Committee Member	08/2021
MICRO'21 Artifact Evaluation Committee Member	07/2021
SC'21 Artifact Evaluation Committee Member	07/2021
AAAI'21 Paper Reviewer Committee Member	10/2020
Teaching Assistant of CS160 (Translation of Programming Languages)	09/2019
Teaching Assistant of CS8 (Python Programming Language)	07/2019
Teaching Assistant of CS16 (C++ Programming Language)	01/2019