

# YUKE WANG

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## EDUCATION

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<b>Ph.D.</b> candidate, Computer Science. <i>University of California, Santa Barbara</i>	GPA: <b>3.92/4.00</b>	09/2018 – Now
<b>B.E.</b> Software Engineering. <i>University of Electronic Science and Technology of China</i>	GPA: <b>3.93/4.00</b> , Rank: <b>10/759</b>	07/2018

## SKILLS

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

## EXPERIENCE HIGHLIGHT

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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

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<b>High-Performance Engineer Intern, NVIDIA, US.</b> High-performance computational framework support for genomics applications.	06/2021 – 09/2021
<b>Research Intern, Alibaba, US.</b> Compiler framework and runtime system for Graph Neural Networks (GNNs) acceleration on GPUs.	07/2020 – 10/2020

## PUBLICATIONS

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[**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

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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

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