

TSUNG-WEI (TW) HUANG

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APPOINTMENT

Assistant Professor, Department of Electrical and Computer Engineering University of Wisconsin at Madison, Madison, Wisconsin, USA	2023 – present
Assistant Professor, Department of Electrical and Computer Engineering University of Utah, Salt Lake City, Utah, USA	2019 – 2023
Research Assistant Professor, Department of Electrical and Computer Engineering University of Illinois at Urbana-Champaign, IL, USA	2018 – 2019
EDUCATION	
PhD, Department of Electrical and Computer Engineering University of Illinois at Urbana-Champaign, IL, USA	2013 – 2017
MS, Department of Computer Science and Information Engineering National Cheng Kung University, Tainan, Taiwan	2010 – 2011
BS, Department of Computer Science and Information Engineering National Cheng Kung University, Tainan, Taiwan	2006 – 2010
RESEARCH INTEREST	

Electronic Design Automation, High-performance Computing, Quantum Computing

SOFTWARE PROJECT

Our software projects have been used by thousands of people from both industry and academia:

1. Taskflow: A General-purpose Parallel and Heterogeneous Programming System https://taskflow.github.io/

- MIT/Amazon/HPEC Graph Challenge Innovation Award (2nd Place), 2023
- MIT/Amazon/HPEC Graph Challenge Champion Award (1st Place), 2020
- ACM Multimedia Best Open-source Software Award, 2019
- C++ Conference Best Poster Award, 2018

2. OpenTimer: A High-performance Timing Analysis Tool for VLSI Systems

https://github.com/OpenTimer/OpenTimer

- IEEE/ACM ICCAD 10-year Retrospective Most Influential Paper Award, 2024
- ACM SIGDA Outstanding PhD Dissertation Award, 2019
- Best EDA Software Tool, WOSET@ICCAD, 2018
- Top-3 Winners of ACM TAU Contests, 2014–2016
- Golden Timers of ACM TAU Contests, 2017–2021
- Golden Timer of IEEE/ACM ICCAD CAD Contest, 2015

3. RTLflow: A GPU Acceleration Flow for RTL Simulation with Batch Stimulus

https://github.com/dian-lun-lin/rtlflow

4. SNIG: A Task-parallel Inference Engine for Large Sparse Neural Network

https://github.com/dian-lun-lin/SNIG

• MIT/Amazon/HPEC Graph Challenge Champion Award, 2020

5. DtCraft: A Data-parallel Distributed Streaming System

https://github.com/twhuang-uiuc/DtCraft

• ACM Multimedia Best Open-source Software Award, 2018

- Honorable Mention (6th Place out of 90 teams), ICCAD CAD Contest, 2024
- ICCAD 10-year Retrospective Most Influential Paper Award, 2024
- 2nd Place, MIT/Amazon/HPEC Large Sparse Neural Network Challenge, 2023
- 2nd Place, MIT/Amazon/HPEC Streaming Graph Challenge, 2023
- ACM SIGDA Outstanding New Faculty Award, 2023
- ACM SIGDA Meritorious Service Award, 2022
- Humboldt Research Fellowship Award, Alexander von Humboldt Foundation, 2022
- Faculty Early Career Development Program (CAREER) Award, NSF, 2022
- Best Paper Award for "GPU-Accelerated Path-based Timing Analysis," ACM TAU Workshop, 2021
- 1st Place, MIT/Amazon/HPEC Large Sparse Neural Network Challenge, 2020
- 2nd Place (Taskflow), Open-source Software Competition, ACM Multimedia Conference, 2019
- ACM SIGDA Outstanding PhD Dissertation Award (thesis title: "Distributed Timing Analysis"), 2019
- Best Tool Award (OpenTimer), Workshop on Open-source EDA Technology, 2018
- Best Open-source Software Award (DtCraft), ACM Multimedia Conference, 2018
- Best Poster Award (Taskflow), CPP Conference, 2018
- 2nd and 1st Place, ACM/SIGDA CADathlon International Programming Contest, 2014 and 2017
- 1st, 2nd, and 1st Place, ACM TAU Timing Analysis Contest, 2014–2016
- Yi-Min Wang and Pi-Yu Chung Endowed Research Award, ECE Dept. UIUC, 2016
- Rambus Computer Engineering Fellowship, ECE Dept. UIUC, 2015—2016
- Study Abroad Scholarship, Ministry of Education, Taiwan, 2013—2014
- 2nd Place, ACM Student Research Competition Grand Final, ACM Annual Award Banquet, 2011
- Best Master's Thesis Award, Taiwan Institute of Electrical and Electronic Engineering, 2011
- Best Master's Thesis Award, IEEE Taiwan Tainan Section, 2011
- Best Master's Thesis Award, Taiwan Institute of Information and Computing Machinery, 2011
- 1st Place, Master's Thesis Contest, Chinese Institute of Electrical Engineering, Taiwan, 2011
- Outstanding Graduate Recruiting Fellowship, National Cheng Kung University, 2010
- Outstanding Student Scholarship, Garmin Corporation, Taiwan, 2010
- 1st Place, ACM/SIGDA Student Research Competition, Design Automation Conference, 2010
- 3rd Place, National Collegiate Cell-Based IC Design Contest, Ministry of Education, Taiwan, 2010
- Distinguished Engineering Student Fellowship, Chinese Institute of Engineers, Taiwan, 2009
- 1st Place, National Collegiate Nano Device CAD Contest, Nano Device Laboratories, Taiwan, 2009
- 3rd Place, National Collegiate Programming Contest, Ministry of Education, Taiwan, 2009
- 2nd Place, National Collegiate IC/CAD Programming Contest, Ministry of Education, Taiwan, 2009
- 2nd Place, Presidential Award in CS Department, National Cheng Kung University, Taiwan, 2009

RESEARCH GRANTS

Co-Design of Chiral Quantum Photonic Devices and Circuits

Aug 2023 – July 2025

Toward a Task-parallel Programming Ecosystem for Modern Scientific Computing

PI, \$298K, NSF, TI-2229304/-2349144

Sep 2022 - Aug 2024

GPU Acceleration for Satisfiability Solver

PI, \$5K (hardware donation), Intel

Co-PI, \$400K, NSF, DMR-2235276

Oct 2022

Developer Training Programs for Taskflow

PI, \$5K, NumFOCUS Small Development Grant

Sep 2022 - May 2023

Transpiling Parallel Task Graph Programming Models for Scientific Software

PI, \$488K, NSF, OAC-2209957/-2349143

July 2022 – July 2025

Taskflow with Constrained Parallelism

PI, \$16K, NSF, CCF-2126672 (REU supplement)

Aug 2022 – Aug 2023

Accelerating Static Timing Analysis with Intelligent Heterogeneous Parallelism

PI, \$500K, NSF, CCF-2144523/-2349582 (CAREER)

Jan 2022 – Jan 2027

GPU Acceleration for Static Timing Analysis

PI, \$10K (hardware donation), Nvidia Applied Research Acceleration Program

Nov 2021

A General-purpose Heterogeneous Task Graph Computing System for VLSI CAD

PI, \$403K, NSF, CCF-2126672/-2349141

Oct 2021 - Oct 2024

Standard GPU Algorithms with Task Graph Parallelism

PI, \$5K, NumFOCUS Small Development Grant

May 2021 - Feb 2022

Taskflow-San: Sanitizing Erroneous Control Flows in Taskflow

PI, \$5K, NumFOCUS Small Development Grant

May 2021 – Feb 2022

OpenTimer and DtCraft

PI, \$427K, DARPA, FA 8650-18-2-7843

June 2018 - July 2019

CONFERENCE PUBLICATION

- 1. Shui Jiang, Yi-Hua Chung, Chih-Chun Chang, Tsung-Yi Ho, and <u>Tsung-Wei Huang</u>, "BQSim: GPU-accelerated Batch Quantum Circuit Simulation using Decision Diagram," *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, Rotterdam, Netherlands, 2025
- 2. Serhan Gener, Sahil Hassan, Liangliang Chang, Chaitali Chakrabarti, Tsung-Wei Huang, Umit Ograss, and Ali Akoglu, "A Unified Portable and Programmable Framework for Task-Based Execution and Dynamic Resource Management on Heterogeneous Systems," *ACM International Workshop on Extreme Heterogeneity Solutions (ExHET)*, Las Vegas, Nevada, 2025
- 3. Wan-Luan Lee, Dian-Lun Lin, Cheng-Hsiang Chiu, Ulf Schlichtmann, and Tsung-Wei Huang, "HyperG: Multilevel GPU-Accelerated k-way Hypergraph Partitioner," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Tokyo, Japan, 2025
- 4. Boyang Zhang, Che Chang, Cheng-Hsiang Chiu, Dian-Lun Lin, Yang Sui, Chih-Chun Chang, Yi-Hua Chung, Wan-Luan Lee, Zizheng Guo, Yibo Lin, and Tsung-Wei Huang, "iTAP: An Incremental Task Graph Partitioner for Task-parallel Static Timing Analysis," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Tokyo, Japan, 2025
- 5. Che Chang, Boyang Zhang, Cheng-Hsiang Chiu, Dian-Lun Lin, Yi-Hua Chung, Wan-Luan Lee, Zizheng Guo, Yibo Lin, and Tsung-Wei Huang, "PathGen: An Efficient Parallel Critical Path Generation Algorithm," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Tokyo, Japan, 2025
- 6. Cheng-Hsiang Chiu, Chedi Morchdi, Yi Zhou, Boyang Zhang, Che Chang, and Tsung-Wei Huang, "Reinforcement Learning-generated Topological Order for Dynamic Task Graph Scheduling," *IEEE High-performance and Extreme Computing Conference (HPEC)*, MA, 2024
- 7. Zizheng Guo, Zuodong Zhang, Wuxi Li, <u>Tsung-Wei Huang</u>, Xizhe Shi, Yufan Du, Yibo Lin, Runsheng Wang, and Ru Huang, "HeteroExcept: Heterogeneous Engine for General Timing Path Exception Analysis," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, New York, 2024
- 8. Chih-Chun Chang, Boyang Zhang, and Tsung-Wei Huang, "GSAP: A GPU-Accelerated Stochastic Graph Partitioner" ACM International Conference on Parallel Processing (ICPP), Gotland, Sweden, 2024
- 9. Shui Jiang, Rongliang Fu, Lukas Burgholzer, Robert Wille, Tsung-Yi Ho, and Tsung-Wei Huang, "FlatDD: A High-Performance Quantum Circuit Simulator using Decision Diagram and Flat Array," ACM International Conference on Parallel Processing (ICPP), Gotland, Sweden, 2024
- 10. Dian-Lun Lin, Joshua San Miguel, Umit Ogras, Tsung-Wei Huang, "TaroRTL: Accelerating RTL Simulation using Coroutine-based Heterogeneous Task Graph Scheduling," International European Conference on Parallel and Distributed Computing (Euro-Par), Madrid, Spain, 2024

- 11. Wan Luan Lee, Dian-Lun Lin, <u>Tsung-Wei Huang</u>, Shui Jiang, Tsung-Yi Ho, Yibo Lin, and Bei Yu, "G-kway: Multilevel GPU-Accelerated k-way Graph Partitioner," *ACM/IEEE Design Automation Conference (DAC)*, San Francisco, CA, 2024
- 12. Che Chang, Tsung-Wei Huang, Dian-Lun Lin, Guannan Guo, and Shiju Lin, "Ink: Efficient Incremental k-Critical Path Generation," ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, 2024
- 13. Boyang Zhang, Dian-Lun Lin, Che Chang, Cheng-Hsiang Chiu, Bojue Wang, Wan Luan Lee, Chih-Chun Chang, Donghao Fang, and Tsung-Wei Huang, "G-PASTA: GPU Accelerated Partitioning Algorithm for Static Timing Analysis," *ACM/IEEE Design Automation Conference (DAC)*, San Francisco, CA, 2024
- 14. Shiju Lin, Guannan Guo, <u>Tsung-Wei Huang</u>, Weihua Sheng, Evangeline Young, and Martin Wong, "GCS-Timer: GPU-Accelerated Current Source Model Based Static Timing Analysis," *ACM/IEEE Design Automation Conference (DAC)*, San Francisco, CA, 2024
- 15. Jie Tong, Liangliang Chang, Umit Yusuf Ogras, and Tsung-Wei Huang, "BatchSim: Parallel RTL Simulation using Inter-cycle Batching and Task Graph Parallelism," *IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, Knoxville, Tennessee, 2024
- 16. Che Chang, Cheng-Hsiang Chiu, Boyang Zhang, and Tsung-Wei Huang, "Incremental Critical Path Generation for Dynamic Graphs," *IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, Knoxville, Tennessee, 2024
- 17. Cheng-Hsiang Chiu and Tsung-Wei Huang, "An Experimental Study of Dynamic Task Graph Parallelism for Large-Scale Circuit Analysis Workloads," *IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, Knoxville, Tennessee, 2024
- 18. Shao-Hung Chan, Zhe Chen, Dian-Lun Lin, Yue Zhang, Daniel Harabor, <u>Tsung-Wei Huang</u>, Sven Koenig, and Thomy Phan, "Anytime Multi-Agent Path Finding using Operator Parallelism in Large Neighborhood Search," *International Conference on Autonomous Agents and Multi-Agent Systems* (AAMAS), Auckland, New Zealand, 2024
- 19. Tsung-Wei Huang, Boyang Zhang, Dian-Lun Lin, and Cheng-Hsiang Chiu, "Parallel and Heterogeneous Timing Analysis: Partition, Algorithm, and System," *ACM International Symposium on Physical Design (ISPD)*, Taipei, Taiwan, 2024
- 20. Cheng-Hsiang Chiu, Zhicheng Xiong, Zizheng Guo, Tsung-Wei Huang, and Yibo Lin, "An Efficient Task-parallel Pipeline Programming Framework," ACM International Conference on High-performance Computing in Asia-Pacific Region (HPC Asia), Nagoya, Japan, 2024
- 21. Zizheng Guo, <u>Tsung-Wei Huang</u>, Jin Zhou, Cheng Zhuo, Yibo Lin, Runsheng Wang, and Ru Huang, "Heterogeneous Static Timing Analysis with Advanced Delay Calculator," *IEEE/ACM Design*, *Automation and Test in Europe Conference (DATE)*, Valencia, Spain, 2024
- 22. Chedi Morchdi, Cheng-Hsiang Chiu, Yi Zhou, and Tsung-Wei Huang, "A Resource-efficient Task Scheduling System using Reinforcement Learning," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Korea, 2024
- 23. Cheng-Hsiang Chiu, Dian-Lun Lin, and Tsung-Wei Huang, "Programming Dynamic Task Parallelism for Heterogeneous EDA Algorithms," *IEEE/ACM International Conference on Computer-aided Design* (*ICCAD*), San Diego, 2023
- 24. Takashi Sato, Chun-Yao Wang, Yu-Guang Chen, and Tsung-Wei Huang, "Overview of 2023 CAD Contest at ICCAD," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Diego, 2023
- 25. Shui Jiang, Tsung-Wei Huang, and Tsung-Yi Ho, "GLARE: Accelerating Sparse DNN Inference Kernels with Global Memory Access Reduction," *IEEE High Performance Extreme Computing (HPEC)*, Virtual, 2023 (Graph Challenge Innovation Award)
- 26. Chih-Chun Chang and Tsung-Wei Huang, "GLARE: Accelerating Sparse DNN Inference Kernels with Global Memory Access Reduction," *IEEE High Performance Extreme Computing (HPEC)*, Virtual, 2023 (Graph Challenge Innovation Award)

- 27. Shui Jiang, Tsung-Wei Huang, Bei Yu, and Tsung-Yi Ho, "SNICIT: Accelerating Sparse Neural Network Inference via Compression at Inference Time on GPU," ACM International Conference on Parallel Processing (ICPP), Salt Lake City, Utah, 2023
- 28. Dian-Lun Lin, Yanqing Zhang, Haoxing Ren, Shih-Hsin Wang, Brucek Khailany, and Tsung-Wei Huang, "GenFuzz: GPU-accelerated Hardware Fuzzing using Genetic Algorithm with Multiple Inputs," ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, 2023
- 29. Tsung-Wei Huang, "qTask: Task-parallel Quantum Circuit Simulation with Incrementality," *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, St. Petersburg, Florida, 2023
- 30. Elmir Dzaka, Dian-Lun Lin, and Tsung-Wei Huang, "Parallel And-Inverter Graph Simulation Using a Task-graph Computing System," *IEEE International Parallel and Distributed Processing Symposium Workshop (IPDPSW)*, St. Petersburg, Florida, 2023
- 31. Guannan Guo, Martin D. F. Wong, and Tsung-Wei Huang, "Fast STA Graph Partitioning Framework for Multi-GPU Acceleration," *IEEE/ACM Design*, *Automation and Test in Europe Conference (DATE)*, Antwerp, Belgium, 2023
- 32. Tsung-Wei Huang and Leslie Hwang, "Task-parallel Programming with Constrained Parallelism," *IEEE High-performance Extreme Computing (HPEC)*, Waltham, MA, 2022
- 33. Tsung-Wei Huang, "Enhancing the Performance Portability of Heterogeneous Circuit Analysis Programs," *IEEE High-performance Extreme Computing (HPEC)*, Waltham, MA, 2022
- 34. Dian-Lun Lin, Haoxing Ren, Yanqing Zhang, Brucek Khailany, and Tsung-Wei Huang, "From RTL to CUDA: A GPU Acceleration Flow for RTL Simulation with Batch Stimulus," *ACM International Conference on Parallel Processing (ICPP)*, Bordeaux, France, 2022
- 35. Cheng-Hsiang Chiu and Tsung-Wei Huang, "Composing Pipeline Parallelism using Control Taskflow Graph," *ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC)*, Minneapolis, Minnesota, 2022
- 36. Yu-Guan Chen, Chun-Yao Wang, Tsung-Wei Huang, and Takashi Sato, "Overview of 2022 CAD Contest at ICCAD," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Diego, CA, 2022
- 37. Cheng-Hsiang Chiu and Tsung-Wei Huang, "Efficient Timing Propagation with Simultaneous Structural and Pipeline Parallelisms," *ACM/IEEE Design Automation Conference (DAC)*, San Francisco, CA, 2022
- 38. Tsung-Wei Huang and Yibo Lin, "Concurrent CPU-GPU Task Programming using Modern C++," *International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS)*, France, 2022
- 39. Kexing Zhou, Zizheng Guo, <u>Tsung-Wei Huang</u>, and Yibo Lin, "Efficient Critical Paths Search Algorithm using Mergeable Heap," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Taiwan, 2022
- 40. Guannan Guo, Tsung-Wei Huang, and Martin Wong, "GPU-accelerated Path-based Timing Analysis," *ACM/IEEE Design Automation Conference (DAC)*, CA, 2021
- 41. Zizheng Guo, <u>Tsung-Wei Huang</u>, and Yibo Lin, "A Provably Good and Practically Efficient Common Path Pessimism Removal Algorithm for Large Designs," *ACM/IEEE Design Automation Conference* (*DAC*), CA, 2021
- 42. McKay Mower, Luke Majors, and Tsung-Wei Huang, "Taskflow-San: Sanitizing Erroneous Control Flow in Taskflow Programs," *IEEE Workshop on Extreme Scale Programming Models and Middleware* (ESPM2), St. Louis, Missouri, 2021
- 43. Tsung-Wei Huang, "TFProf: Profiling Large Taskflow Programs with Modern D3 and C++," *IEEE International Workshop on Programming and Performance Visualization Tools (ProTools)*, St. Louis, Missouri, 2021
- 44. Dian-Lun Lin and Tsung-Wei Huang, "Efficient GPU Computation using Task Graph Parallelism," European Conference on Parallel and Distributed Computing (Euro-Par), Portugal, 2021
- 45. Yasin Zamani and Tsung-Wei Huang, "A High-Performance Heterogeneous Critical Path Analysis Framework," *IEEE High-performance Extreme Computing (HPEC)*, Waltham, MA, 2021

- 46. Cheng-Hsiang Chiu, Dian-Lun Lin and Tsung-Wei Huang, "An Experimental Study of SYCL Task Graph Parallelism for Large-Scale Machine Learning Workloads," *International Workshop of Asynchronous Many-Task Systems for Exascale (AMTE)*, 2021
- 47. Zizheng Guo, Tsung-Wei Huang, and Yibo Lin, "HeteroCPPR: Accelerating Common Path Pessimism Removal with Heterogeneous CPU-GPU Parallelism," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, Germany, 2021
- 48. Guannan Guo, Tsung-Wei Huang, Yibo Lin, and Martin D. F. Wong, "GPU-accelerated Critical Path Generation with Path Constraints," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, Germany, 2021
- 49. Tsung-Wei Huang, Yu-Guan Chen, Chun-Yao Wang, and Takashi Sato, "Overview of 2021 CAD Contest at ICCAD," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, Germany, 2021
- 50. Kuan-Ming Lai, Tsung-Wei Huang, Pei-Yu Lee, and Tsung-Yi Ho, "ATM: A High Accuracy Extracted Timing Model for Hierarchical Timing Analysis," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Tokyo, Japan, 2021
- 51. Chun-Xun Lin, Tsung-Wei Huang, and Martin D. F. Wong, "An Efficient Work-Stealing Scheduler for Task Dependency Graph," *IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Hong Kong, 2020
- 52. Dian-Lun Lin and Tsung-Wei Huang, "A Novel Inference Algorithm for Large Sparse Neural Network using Task Graph Parallelism," *IEEE High-performance Extreme Computing (HPEC)*, Waltham, MA, 2020 (**Graph Challenge Champion Award**)
- 53. Zizheng Guo, Tsung-Wei Huang, and Yibo Lin, "GPU-Accelerated Static Timing Analysis," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Diego, 2020
- 54. Tsung-Wei Huang, "A General-purpose Parallel and Heterogeneous Task Programming System for VLSI CAD," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Diego, 2020
- 55. Ing-Chao Lin, Ulf Schlichtmann, <u>Tsung-Wei Huang</u>, and Pao-Hun Lin, "Overview of 2020 CAD Contest at ICCAD," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Diego, 2020
- 56. Guannan Guo, <u>Tsung-Wei Huang</u>, Chun-Xun Lin, and Martin D. F. Wong, "An Efficient Critical Path Generation Algorithm Considering Extensive Path Constraints," *ACM/IEEE Design Automation Conference (DAC)*, San Francisco, CA, 2020
- 57. Chun-Xun Lin, Tsung-Wei Huang, Guannan Guo, and Martin D. F. Wong, "A Modern C++ Parallel Task Programming Library," *ACM Multimedia Conference (MM)*, Nice, France, 2019 (Second Prize of Open-Source Software Competition)
- 58. Chun-Xun Lin, <u>Tsung-Wei Huang</u>, Guannan Guo, and Martin D. F. Wong, "An Efficient and Composable Parallel Programming Library," *IEEE High-performance Extreme Computing (HPEC)*, Waltham, MA, 2019
- 59. Tsung-Wei Huang, Chun-Xun Lin, Guannan Guo, and Martin D. F. Wong, "Cpp-Taskflow: Fast Task-based Parallel Programming using Modern C++," *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, Rio De Janeiro, Brazil, 2019
- 60. Kuan-Ming Lai, Tsung-Wei Huang, and Tsung-Yi Ho, "A General Cache Framework for Efficient Generation of Timing Critical Paths," *ACM/IEEE Design Automation Conference (DAC)*, Las Vegas, NV, 2019
- 61. Tsung-Wei Huang, Chun-Xun Lin, Guannan Guo, and Martin D. F. Wong, "Essential Building Blocks for Creating an Open-source EDA Project," *ACM/IEEE Design Automation Conference (DAC)*, Las Vegas, NV, 2019
- 62. Tsung-Wei Huang, Chun-Xun Lin, and Martin D. F. Wong, "Distributed Timing Analysis at Scale," ACM/IEEE Design Automation Conference (DAC), Las Vegas, NV, 2019
- 63. Tsung-Wei Huang, Chun-Xun Lin, Guannan Guo, and Martin D. F. Wong, "A General-purpose Distributed Programming Systems using Data-parallel Streams," *ACM Multimedia Conference (MM)*, Seoul, Korea, 2018 (**Best Open-Source Software Award**)

- 64. Chun-Xun Lin, <u>Tsung-Wei Huang</u>, Guannan Guo, and Martin D. F. Wong, "MtDetector: A High-performance Marine Traffic Detector at Stream Scale," *ACM Distributed Event-based System Conference (DEBS)*, Hamilton, New Zealand, 2018
- 65. Chun-Xun Lin, <u>Tsung-Wei Huang</u>, T. Yu, and Martin D. F. Wong, "A Distributed Power Grid Analysis Framework from Sequential Stream Graph," *ACM Great Lakes Symposium (GLSVLSI)*, Chicago, IL, 2018
- 66. Chun-Xun Lin, Tsung-Wei Huang, and Martin D. F. Wong, "Routing at Compile Time," *IEEE International Symposium on Quality Electronic Design (ISQED)*, Santa Clara, CA, 2018
- 67. Tsung-Wei Huang, Chun-Xun Lin, and Martin D. F. Wong, "DtCraft: A Distributed Execution Engine for Compute-intensive Applications," ACM/IEEE International Conference on Computer-aided Design (ICCAD), Irvine, CA, 2017
- 68. Tin-Yin Lai, <u>Tsung-Wei Huang</u>, and Martin D. F. Wong, "An Effective and Accurate Macro-modeling Algorithm for Large Hierarchical Designs," *ACM/IEEE Design Automation Conference (DAC)*, Austin, TX, 2017 (First Place of TAU Timing Analysis Contest)
- 69. Tsung-Wei Huang, Martin D. F. Wong, D. Sinha, K. Kalafala, and N. Venkateswaran, "A Distributed Timing Analysis Framework for Large Designs," *ACM/IEEE Design Automation Conference (DAC)*, Austin, TX, 2016
- 70. Tsung-Wei Huang and Martin D. F. Wong, "OpenTimer: A High-performance Timing Analysis Tool," <u>IEEE/ACM International Conference on Computer-aided Design (ICCAD)</u>, TX, 2015 (2024 ICCAD 10-year Retrospective Most Influential Paper Award)
- 71. Tsung-Wei Huang and Martin D. F. Wong, "On Fast Timing Closure: Speeding Up Incremental Path-Based Timing Analysis with MapReduce," *IEEE/ACM International Workshop on System-level Interconnect Prediction (SLIP)*, CA, 2015
- 72. Tsung-Wei Huang and Martin D. F. Wong, "Accelerated Path-Based Timing Analysis with MapReduce," *ACM International Symposium on Physical Design (ISPD)*, Monterey, CA, 2015
- 73. Tsung-Wei Huang, P.-C. Wu, and Martin D. F. Wong, "Fast Path-Based Timing Analysis for CPPR," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Jose, CA, 2014 (First Place of TAU Timing Analysis Contest)
- 74. Tsung-Wei Huang, P.-C. Wu, and Martin D. F. Wong, "UI-Timer: An Ultra-Fast Clock Network Pessimism Removal Algorithm," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Jose, CA, 2014
- 75. Tsung-Wei Huang, P.-C. Wu, and Martin D. F. Wong, "UI-Route: An Ultra-Fast Incremental Maze Routing Algorithm," *IEEE/ACM International Workshop on System-level Interconnect Prediction (SLIP)*, San Francisco, CA, 2014
- 76. S.-H. Yeh, J.-W. Chang, Tsung-Wei Huang, and Tsung-Yi Ho, "Voltage-Aware Chip-Level Design for Reliability-Driven Pin-Constrained EWOD Chips," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Jose, CA, 2012
- 77. Tsung-Wei Huang, J.-W. Chang, and Tsung-Yi Ho, "Integrated Fluidic-Chip Co-Design Methodology for Digital Microfluidic Biochips," *ACM International Symposium on Physical Design (ISPD)*, Napa, CA, 2012
- 78. J.-W. Chang, Tsung-Wei Huang, and Tsung-Yi Ho, "An ILP-based Obstacle-Avoiding Routing Algorithm for Pin-Constrained EWOD Chips," *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, Sydney, Australia, 2012
- 79. Tsung-Wei Huang, Tsung-Yi Ho, and K. Chakrabarty, "Reliability-Oriented Broadcast Electrode-Addressing for Pin-Constrained Digital Microfluidic Biochips," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, San Jose, CA, 2011
- 80. Tsung-Wei Huang, Yan-You Lin, J.-W. Chang, and Tsung-Yi Ho, "Recent Research and Emerging Challenges in the Designs and Optimizations for Digital Microfluidic Biochips," *IEEE System on Chip Conference (SOCC)*, 2011.
- 81. Tsung-Wei Huang, Yan-You Lin, J.-W. Chang, and Tsung-Yi Ho, "Chip-Level Design and Optimization for Digital Microfluidic Biochips," *IEEE International Midwest Symposium on Circuits and Systems* (MWSCAS), 2011.

- 82. P.-H. Yuh, C. C.-Y. Lin, Tsung-Wei Huang, Tsung-Yi Ho, C.-L. Yang, and Y.-W. Chang, "A SAT-Based Routing Algorithm for Cross-Referencing Biochips," *IEEE/ACM International Workshop on System-level Interconnect Prediction (SLIP)*, San Diego, CA, June 2011.
- 83. Tsung-Wei Huang, H.-Y. Su, and Tsung-Yi Ho, "Progressive Network-Flow Based Broadcast Addressing for Pin-Constrained Digital Microfluidic Biochips," *ACM/IEEE Design Automation Conference (DAC)*, pp. 741—746, San Diego, CA, June 2011.
- 84. Tsung-Wei Huang, S.-Y. Yeh, and Tsung-Yi Ho, "A Network-Flow Based Pin-Count Aware Routing Algorithm for Broadcast Electrode-Addressing EWOD Chips," *IEEE/ACM International Conference on Computer-aided Design (ICCAD)*, pp. 425-431, San Jose, CA, 2010.
- 85. Tsung-Wei Huang and Tsung-Yi Ho, "A Two-Stage Integer-Linear-Programming Based Droplet Routing Algorithm for Pin-Constrained Digital Microfluidic Biochips," ACM International Symposium on Physical Design (ISPD), pp. 201—208, San Francisco, CA, 2010.
- 86. Tsung-Wei Huang, C.-H. Lin, and Tsung-Yi Ho, "A Contamination-Aware Droplet Routing Algorithm for Digital Microfluidic Biochips," *IEEE/ACM International Conference on Computer-aided Design* (*ICCAD*), pp. 151—156, San Jose, CA, 2009.
- 87. Tsung-Wei Huang and Tsung-Yi Ho, "A Fast Routability- and Performance-Driven Droplet Routing Algorithm for Digital Microfluidic Biochips," *IEEE International Conference on Computer Design (ICCD)*, pp. 445—450, Lake Tahoe, CA, 2009

JOURNAL PUBLICATION

- 1. G. Guo, Tsung-Wei Huang, Y. Lin, Z. Guo, S. Yellapragada, and M. D. F. Wong, "A GPU-Accelerated Framework for Path-Based Timing Analysis," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 42, no. 11, pp. 4219-4232, Nov. 2023
- 2. Zizheng Guo, <u>Tsung-Wei Huang</u>, and Yibo Lin, "Accelerating Static Timing Analysis using CPU-GPU Heterogeneous Parallelism," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 32, no. 12, pp. 4973-4984, Dec. 2023
- 3. Dian-Lun Lin and Tsung-Wei Huang, "Accelerating Large Sparse Neural Network Inference using GPU Task Graph Parallelism," *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 33, no. 11, pp. 3041—3052, Nov 2022
- 4. Tsung-Wei Huang, Dian-Lun Lin, Chun-Xun Lin, and Yibo Lin, "Taskflow: A Lightweight Parallel and Heterogeneous Task Graph Computing System," *IEEE Transactions on Parallel and Distributed Systems* (TPDS), vol. 33, no. 6, pp. 1303—1320, June 2022
- 5. Zizheng Guo, Mingwei Yang, <u>Tsung-Wei Huang</u>, and Yibo Lin, "A Provably Good and Practically Efficient Algorithm for Common Path Pessimism Removal in Large Designs," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 41, no. 10, pp. 3466—3478, Oct. 2022
- 6. Jia-Ruei Yu, Chun-Hsien Chen, <u>Tsung-Wei Huang</u>, Jang-Jih Lu, Chia-Ru Chung, Ting-Wei Lin, Min-Hsien Wu, Yi-Ju Tseng, Hsin-Yao Wang, "Energy Efficiency of Inference Algorithms for Medical Datasets: A Green AI study," *Journal of Medical Internet Research (JMIR)*, vol. 24, no. 1, Jan. 2022
- 7. Tsung-Wei Huang, Dian-Lun Lin, Yibo Lin, and Chun-Xun Lin, "Taskflow: A General-purpose Parallel and Heterogeneous Task Programming System," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 41, no. 5, pp. 1448—1452, May 2022
- 8. Tsung-Wei Huang, Chun-Xun Lin, and Martin. D. F. Wong, "OpenTimer v2: A Parallel Incremental Timing Analysis Engine," *IEEE Design and Test (DAT)*, vol. 38, no. 2, pp. 62—68, April 2021
- 9. Tsung-Wei Huang, Yibo Lin, Chun-Xun Lin, Guannan Guo, and Martin. D. F. Wong, "Cpp-Taskflow: A General-purpose Parallel Task Programming System at Scale," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 40, no. 8, pp. 1687—1700, Aug. 2021
- 10. <u>Tsung-Wei Huang</u>, Guannan Guo, Chun-Xun Lin, and Martin. D. F. Wong, "OpenTimer v2: A New Parallel Incremental Timing Analysis Engine," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 40, no. 4, pp. 776—789, April, 2021

- 11. Tsung-Wei Huang, Chun-Xun Lin, and Martin D. F. Wong, "DtCraft: A High-performance Distributed Execution Engine at Scale," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems* (*TCAD*), vol. 38, no. 6, pp. 1070—1083, June 2018
- 12. Tsung-Wei Huang and Martin D. F. Wong, "UI-Timer 1.0: An Ultra-Fast Path-Based Timing Analysis Algorithm for CPPR," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems* (*TCAD*), vol. 35, no. 11, pp. 1862—1875, Nov. 2016
- 13. S.-H. Yeh, J.-W. Chang, <u>Tsung-Wei Huang</u>, S.-T. Yu, and Tsung-Yi Ho, "Voltage-Aware Chip-Level Design for Reliability-Driven Pin-Constrained EWOD Chips," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 33, no.9, pp. 1302—1315, Sep. 2014.
- 14. J.-W. Chen, C.-L. Hsu, L.-C. Tsai, Tsung-Wei Huang, and Tsung-Yi Ho, "An ILP-Based Routing Algorithm for Pin-Constrained EWOD Chips with Obstacle Avoidance," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 32, no.11, pp. 1655—1667, Nov. 2013.
- 15. Y.-H. Chen, C.-L. Hus, <u>Tsung-Wei Huang</u>, and Tsung-Yi Ho, "A Reliability-Oriented Placement Algorithm for Reconfigurable <u>Digital Microfluidic Biochips using 3D Deferred Decision-Making Technique</u>," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 32, no. 8, pp. 1151—1162, Aug. 2013.
- 16. J.-W. Chang, S.-H. Yeh, Tsung-Wei Huang, and Tsung-Yi Ho, "Integrated Fluidic-Chip Co-Design Methodology for Digital Microfluidic Biochips," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 32, no 2, pp. 216—227, Feb. 2013.
- 17. Tsung-Wei Huang, S.-Y. Yeh, and Tsung-Yi Ho, "A Network-Flow Based Pin-Count Aware Routing Algorithm for Broadcast-Addressing EWOD Chips," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 30, no. 12, pp. 1786—1799, Dec. 2011.
- 18. Tsung-Wei Huang and Tsung-Yi Ho, "A Two-Stage Integer-Linear-Programming Based Droplet Routing Algorithm for Pin-Constrained Digital Microfluidic Biochips," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 30, no. 2, pp. 215—228, Feb. 2011.
- 19. Tsung-Wei Huang, C.-H. Lin, and Tsung-Yi Ho, "A Contamination-Aware Droplet Routing Algorithm for the Synthesis of Digital Microfluidic Biochips," *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems (TCAD)*, vol. 29, no. 11, pp. 1682—1695, Nov. 2010.

PATENT

Incremental Common Path Pessimism Analysis

USA-14/946043

Tsung-Wei Huang, K. Kalafala, D. Sinha, and N. Venkateswaran

Distributed Timing Analysis of a Partitioned Integrated Circuit Design

USA-9916405B2

Tsung-Wei Huang, K. Kalafala, D. Sinha, and N. Venkateswaran

TALK

- 1. "Intelligent High-performance Computing," Arizona State University, Oct 2024
- 2. "Scientific Research and Grant Writing," DAC Early Career Workshop, June 2024
- 3. "Taskflow: A General-purpose Task-parallel Programming System," Rapid Silicon, June 2024
- 4. "Intelligent High-performance Computing," University of Colorado Boulder, June 2024
- 5. "Intelligent High-performance Computing," University at Buffalo, May 2024
- 6. "Taskflow: A General-purpose Task-parallel Programming System," Cpp Rusia, May 2024
- 7. "Taskflow: A General-purpose Task-parallel Programming System," UCLA VAST Lab, April 2024
- 8. "Taskflow: A General-purpose Task-parallel Programming System," Cadence, April 2024
- 9. "Taskflow: A General-purpose Task-parallel Programming System," UC Santa Cruz, March 2024
- 10. "Taskflow: A General-purpose Task-parallel Programming System," FlexCompute Inc, Feb 2024
- 11. "Taskflow: A General-purpose Task-parallel Programming System," Chinese Univ of HK, Jan 2024
- 12. "Taskflow: A General-purpose Task-parallel Programming System," China Univ of Petroleum, Oct 2023
- 13. "Quantum Circuit Simulation with Incrementality," University at Buffalo, June 2023

- 14. "Intelligent High-performance Computing," Technical University of Munich, June 2023
- 15. "Taskflow: A General-purpose Task-parallel Programming System," Univ of Notre Dame, May 2023
- 16. "A General-purpose Task-parallel Programming System," Cruise LLC, April 2023
- 17. "Performance Portability and Optimization using Machine Learning," PNNL-Utah Seminar, Nov 2022
- 18. "Intelligent Heterogeneous Parallelism," ACCESS-CEDA Seminar Series, Hong Kong, Sep 2022
- 19. "Intelligent Heterogeneous Parallelism," CS Department, UC Merced, Sep 2022
- 20. "Programming System for Building High-performance CAD Applications," Google X, Sep 2022
- 21. "A General-purpose Parallel and Heterogeneous Task Programming System," AMD, Aug 2022
- 22. "A GPU Acceleration Flow for RTL Simulation with Batch Stimulus," Invited Talk, IWLS, July 2022
- 23. "Intelligent Heterogeneous Computing," AMD Research, June 2022
- 24. "Intelligent Heterogeneous Computing," ECE Department, Johns Hopkins University, March 2022
- 25. "Intelligent Heterogeneous Computing," ECE Department, Stevens Institute of Technology, 2022
- 26. "Intelligent Heterogeneous Computing," ECE Department, University of Minnesota, Feb 2022
- 27. "Taskflow: A General-purpose Heterogeneous Task Programming System," IXPUG, 2021
- 28. "cudaFlow: A Modern C++ Programming Model for GPU Task Graph Parallelism," CppCon, 2021
- 29. "A General-purpose Heterogeneous Task Computing System," Chinese Univ of HK, Aug 2021
- 30. "HeteroTime: Accelerating Static Timing Analysis with GPUs," Nvidia Research, June 2021
- 31. "Taskflow: A Lightweight Heterogeneous Task Programming System," CPPNow, 2021
- 32. "GPU-Accelerated Static Timing Analysis and Beyond," GTC, April 2021
- 33. "Machine Learning-enabled System for EDA," VLSI-DAT, April 2021
- 34. "GPU-Accelerated Static Timing Analysis," UC Santa Cruz, EDA Seminar, Feb 2021
- 35. "A General-purpose Heterogeneous Task Programming System," CIE/USA-GNYC, Oct 2020
- 36. "Taskflow: Parallel and Heterogeneous Task Programming in C++," C++ Meetup, Oct 2020
- 37. "Taskflow: A General-purpose Heterogeneous Task Programming System," CppIndia, Oct 2020
- 38. "Taskflow: A General-purpose Heterogeneous Task Programming System," MUC++, Oct 2020
- 39. "Programming Systems for Parallelizing VLSI CAD and Beyond," VLSI-DAT, April 2020
- 40. "A General-purpose Heterogeneous Task Programming System at Scale," ORNL, March 2020
- 41. "Growing Your Open-Source Projects," WOSET at IEEE/ACM ICCAD, November 2019
- 42. "Essential Building Blocks for Creating an Open-source EDA Project," IEEE/ACM DAC, June 2019
- 43. "Task-based Parallel Programming using Modern C++," CSL Social Hour, Sep 2018
- 44. "Distributed Timing Analysis in 100 Lines of Code," VSD webinar, May 2018
- 45. "DtCraft: A High-performance Distributed Execution Engine at Scale," CSLSC, UIUC, 2018
- 46. "OpenTimer: An open-source high-performance timing analysis tool," ORCONF, Italy, 2016
- 47. "Distributed Timing Analysis: Framework and Systems," Cadence, Austin, June 2016
- 48. "OpenTimer: A High-performance Timing Analysis Tool," Invited Talk, ICCAD, 2015
- 49. "Fast Path-based Timing Analysis," Invited Talk, ICCAD, 2014

Ph.D. Students

Thesis: TBD

Dian-Lun Lin	Spring 2020 – Aug 2024
Thesis: Task-parallel Heterogeneous Programming System for Logic Simulation	
Guannan Guo (co-supervised with Prof. Martin Wong at UIUC) Thesis: Parallel and Heterogeneous Computing for Static Timing Analysis	Aug 2018 – Dec 2023
Cheng-Hsiang Chiu Thesis: Asynchronous Many-task Systems with Intelligent Scheduling	Fall 2020 – present
Jie Tong (co-supervised with Prof. Umit Ogras) Thesis: TBD	Fall 2023 – present
Che Chang	Spring 2022 – present

Wan-Luan Lee Thesis: TBD	Spring 2022 – present
Chih-Chun Chang Thesis: TBD	Spring 2023 – present
Boyang Zhang Thesis: TBD	Spring 2023 – present
Yi-Hua Chung Thesis: TBD	Fall 2023 – present
Work Experience	
Software Engineer, High-performance Computing Group, Citadel, IL Developed machine learning benchmarks and optimization tips for financial workloads	May 2017 – Aug 2017
Software Engineer, Timing Analysis Group, IBM, NY Developed a distributed timing analysis prototype atop Einstimer	May 2015 – Aug 2015
Software Engineer, Timing Analysis Group, IBM, NY	May 2014 – Aug 2014

SERVICE

Grant Review Panelist

Evaluated grant proposals based on intellectual merit and broader impacts

Developed optimization algorithms for tag-based incremental timing analysis

- NSF Office of Advanced Cyberinfrastructure (OAC)
- NSF Principles and Practice of Scalable Systems (PPoSS)
- NSF Cyber-physical Systems (CPS)
- NSF Software and Hardware Foundations (SHF)
- DOE Advanced Scientific Computing Research (ASCR)
- DOE High Energy Physics (HEP)

Workershop Organization

Organized workshops and meetings to foster collaboration in CAD, HPC, and Quantum

- NSF FuSe Workshop on Intelligent Photonic Materials, Devices, and Systems, 2024
- NSF FuSe Workshop on Quantum Computing and Systems, 2024
- ACM/IEEE DAC Open-source Bird of Feather, 2024

Chair/Co-chair

Engaged widespread contributions to solving cutting-edge HPC and CAD problems

- IEEE/ACM ICCAD CAD Contests, 2020–2023
- ACM SIGDA CADathlon International Programming Contest, 2018–2021
- ACM TAU Timing Analysis Contest, 2018

Program Committee

Selected top-quality papers and organized conference programs

- IEEE/ACM Design, Automation and Test in Europe Conference (DATE), 2025
- IEEE/ACM International Conference on Computer-aided Design (ICCAD), 2019–2022, 2024
- IEEE/ACM International Symposium on Microarchitecture (MICRO), 2024
- ACM/IEEE International Symposium on Machine Learning for CAD (MLCAD), 2024–2024
- IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 2023–2024
- IEEE International Parallel and Distributed Processing Symposium (IPDPS), 2024
- ACM/IEEE International Conference for High Performance Computing (SC), 2023
- ACM/IEEE Design Automation Conference (DAC), 2022–2025
- ACM International Workshop on Timing Issues (TAU), 2020–2021
- IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC), 2020–2021
- IEEE International Conference on Computer Design (ICCD), 2020–2021

- International Workshop on Logic Synthesis (IWLS), 2020
- C++ Conference (CppCon), 2019–2021

Editorship

Managed peer-review processes and recommended what gets published

• Guest editor, Special Issue of VLSI Integration, 2022

Journal Reviewers

Evaluated submitted papers and recommended acceptance/rejection

- IEEE Transactions on Parallel and Distributed Computing Systems (TPDS)
- IEEE Transactions on Computer-aided Design for Integrated Circuits and Systems (TCAD)
- IEEE Transactions on Very Large-scale Integration (TVLSI)
- IEEE Transactions on Circuits and Systems (TCAS)
- IEEE Transactions on Big Data (TBD)
- IEEE Transactions on Architecture and Code Optimization (TACO)
- ACM Transaction son Design Automation of Electronic Systems (TODAES)
- ACM Journal of Emerging Technologies in Computing Systems (JETC)
- VLSI Integration Journal
- Concurrency and Computation: Practice and Experience
- Software X
- Journal of Computational Science

Departmental Committee at the University of Wisconsin at Madison

Helped the ECE department enhance various research and teaching programs

- Faculty Search Committee, 2024-Now
- Undergraduate Advisory Committee, 2024–Now
- MS Accelerated Committee, 2024-Now
- Graduate Student and Admission Committee, 2023–Now

Departmental Committee at the University of Utah

Helped the ECE department enhance various research and teaching programs

- Graduate Student and Admission Committee, 2021–2023
- University of Utah Asia Campus Committee, 2021–2023
- University of Utah Asia Campus Students Summer Visit Program, 2021
- University of Utah Asia Campus faculty recruiting committee, 2021–2023
- Artificial Intelligence and Data-science faculty recruiting committee, 2020

MISCELLANEOUS

Citizenship: Taiwan

Hobby: Piano playing, hiking, camping