Yen-Hsiang Chang

Graduate Student Researcher, UC Berkeley

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Research Interests

High-Performance Computing, Parallel Graph Algorithms,
Scalable Sparse Solvers, Applied Numerical Linear Algebra

Education

University of California, Berkeley — Berkeley, CA
Ph.D. Student in EECS — 2023 – Present
Advisor: Prof. James Demmel

University of Illinois Urbana-Champaign — Champaign, IL
B.S. in Grainger Engineering — 2018 – 2022
Major: Computer Engineering, Minor: Mathematics
Cumulative GPA: 3.99/4.00, Major GPA: 4.00/4.00, Minor GPA: 4.00/4.00
Graduated with Highest Honors, on completion of a thesis of superior quality.

Publications

Parallelizing the Approximate Minimum Degree Ordering Algorithm: Strategies and Evaluation
Yen-Hsiang Chang, Aydın Buluç, James Demmel
*Proceedings of the SIAM Conference on Parallel Processing for Scientific Computing (**PP**), 2026. Forthcoming.*

Parallelizing Maximal Clique Enumeration on GPUs
Mohammad Almasri*, Yen-Hsiang Chang*, Izzat El Hajj, Rakesh Nagi, Jinjun Xiong, Wen-mei Hwu
*International Conference on Parallel Architectures and Compilation Techniques (**PACT**), 2023.*

MLHarness: A Scalable Benchmarking System for MLCommons
Yen-Hsiang Chang, Jianhao Pu, Wen-mei Hwu, Jinjun Xiong
*BenchCouncil Transactions on Benchmarks, Standards and Evaluations, (**TBench**), 2021.*

Research Experiences

Sparsitute, PASSION Lab and BeBOP — Berkeley, CA
Graduate Researcher, UC Berkeley and LBNL — Aug 2023 – Present
Mentors: Prof. James Demmel, Dr. Aydın Buluç
Focus: Scalable direct sparse solvers and fill-reduced ordering algorithms

Coordinated Science Laboratory — Champaign, IL
Undergraduate Researcher, UIUC — May 2021 – May 2022
Mentors: Prof. Wen-mei Hwu, Prof. Rakesh Nagi, Prof. Jinjun Xiong
Focus: Parallel graph mining on GPUs

Center for Cognitive Computing Systems Research — Champaign, IL
Undergraduate Researcher, UIUC — Jun 2019 – May 2022
Mentors: Prof. Wen-mei Hwu, Prof. Jinjun Xiong
Focus: Benchmarking methods for evaluating ML inference systems

Teaching Experiences

Teaching assistant, University of California, Berkeley
CS 267: Applications of Parallel Computers — Spring 2025

Selected Talks

SIAM Conference on Parallel Processing for Scientific Computing (PP26) — Berlin, Germany — Mar 3, 2026
Title: Parallelizing the Approximate Minimum Degree Ordering Algorithm: Strategies and Evaluation

SIAM Conference on Applied and Computational Discrete Algorithms (ACDA25) — Montréal, Canada — Jul 31, 2025
Title: Parallelizing the Approximate Minimum Degree Ordering Algorithm: Strategies and Evaluation (Extended Abstract)
Best Presentation Award

The 32nd International Conference on Parallel Architectures and Compilation Techniques (PACT23) — Vienna, Austria — Oct 24, 2023
Title: Parallelizing Maximal Clique Enumeration on GPUs

Skills

C/C++, Python, CUDA, OpenMP, MPI

Awards

Best Presentation Award in SIAM ACDA25 — 2025

Tong Leong Lim Pre-Doctoral Prize — 2025
Highest distinction in the pre-doctoral examination in EECS at UC Berkeley

17th Place in 2022 Google Hash Code World Finals — 2022

Bronze Medal in 2020 ICPC World Finals — 2021
11th place worldwide

ECE Alumni Association Scholarship — 2021
Outstanding scholastic record in ECE at UIUC

163rd Place in 2021 Google Code Jam Round 3 — 2021

6th Place in Microsoft Q# Summer Coding Contest — 2020

Round 4 Qualifier in 2020 Topcoder Open Algorithm Competition — 2020
Top 110 contestants worldwide

Midwest Champion in 2020 ICPC North America Championship — 2020
10th place nationwide

2nd Place in 2020 ICPC North America Championship Cyber Challenge — 2020

132nd Place in 2020 Google Code Jam Round 3 — 2020

1st Place in 2019 ICPC North America Mid-Central Regional Contest — 2019

112th Place in 2019 Google Code Jam Round 3 — 2019

Dean's List in Grainger College of Engineering at UIUC — 2018 – 2022