Ashish Venkat

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Professional Appointments

University of Virginia	Aug 2018-Present
Assistant Professor, Department of Computer Science	
University of California, San Diego	Apr 2011-Aug 2018
Research Assistant, Department of Computer Science	
IBM Research Labs, Haifa, Israel	Aug 2016-Dec 2016
Research Intern, Cloud Platforms Division	
Microsoft Research, Redmond, WA	Mar 2015-Jun 2015
Research Intern, MSR Technologies Lab	
Intel Corporation, Santa Clara, CA	Jun 2012-Sep 2012
Graduate Technical Intern, Processor Binary Translation Group	
Amazon.com, Inc., Seattle, WA	Jun 2011-Sep 2011
Software Development Intern, Retail Systems Group	
Brocade Communications, Bangalore, India	May 2009-Aug 2010
Software Engineer, Storage Encryption Group	
Freescale Semiconductor, Bangalore, India	Jul 2008-May 2009
Software Engineer, Symbian Middleware Group	
Education	
PhD., Computer Science	Spring 2018
Thesis: Breaking the ISA Barrier in Modern Computing.	
Advisor: Prof. Dean Tullsen	
University of California, San Diego	
M.S., Computer Science	Spring 2014
University of California, San Diego	
B.Eng., Computer Science	Spring 2008
National Institute of Engineering, Mysore, India	

Honors and Awards Received

NSF CAREER Award

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.

UVA Research Achievement Award 2024 (Recognized by the Dean of Engineering)

Recognized through nominations by the Dean of Engineering for making substantial contributions to the field of study, influencing the academic community, at UVA's university-wide Sixth Annual Research Achievement Awards.

UVA Research Achievement Award 2023 (National Recognition Category)

Recognized for outstanding research and scholarship at UVA's university-wide Fifth Annual Research Achievement Awards

ISCA Prolific Author of the Decade 2013-2022

List of prolific authors at ISCA for the decade 2013-2022, put together as part of the retrospective on Fifty Years of ISCA!

DATE 2023 Best Paper Award Nomination

Best Paper Nomination at a top VLSI Design conference with an acceptance rate of 25%.

IEEE TCAD Hardware and Embedded Security Top Pick 2021

ISCA 2020 paper on a transparent memory safety defense selected across all top architecture, security, and VLSI design conferences (DAC, DATE, ICCAD, HOST, VLSI Design, CHES, ETS, VTS, ITC, IEEE S&P, Euro S&P, USENIX Security, ASIA CCS, NDSS, ISCA, HASP, MICRO, ASPLOS, HPCA, ACSAC, and ACM CCS) held in the six years between the years 2015-2020, for publication in a Special Issue of IEEE TCAD.

IEEE TCAD Hardware and Embedded Security Top Pick 2020

ASPLOS 2019 paper on Spectre mitigation selected across all top architecture, security, and VLSI design conferences (DAC, DATE, ICCAD, HOST, VLSI Design, CHES, ETS, VTS, ITC, IEEE S&P, Euro S&P, USENIX Security, ASIA CCS, NDSS, ISCA, HASP, MICRO, ASPLOS, HPCA, ACSAC, and ACM CCS) held in the six years between the years 2014-2019, for publication in a Special Issue of IEEE TCAD.

IEEE Micro Top Pick 2019

ISCA 2018 paper on on-demand microcode customization selected across all top architecture conferences (ISCA, ASPLOS, MICRO, HPCA) held in 2018, for publication in a Special Issue of IEEE Micro.

HPCA 2019 Best Paper Award Runner-Up

Best Paper Runner-Up at a top Computer Architecture conference with an acceptance rate of 21%.

ACM SIGARCH Student Scholarship

One of the seven SIGARCH student scholars to attend the ACM Turing Centenary Celebrations.

TEQIP Best Undergraduate Student Project

Awarded by the Technical Education Quality Improvement Programme (TEQIP) foundation, Government of India.

Significant Press and Coverage

Research on micro-op cache vulnerability published at ISCA 2021 was covered widely by multiple international <u>technology</u> <u>news</u> and <u>mainstream media</u> outlets in **May 2021**. **Personal congratulatory note from UVA President Ryan!**

Research on Composite-ISA Cores published at HPCA 2019 was covered on <u>Coreteks</u>, in the Aug 2020 article <u>"AMD Master Plan Pt. 2 -- Heterogeneous Revolution"</u>.

Research on the Packet Chasing Attack that exploits a new vulnerability in Intel processors was listed by NIST in **Sep 2019** as a medium severity vulnerability under <u>CVE-2019-11184</u>.

Peer-Reviewed Conference Publications

Top conferences in the fields of Computer Architecture, Computer Security, and VLSI Design include ISCA, MICRO, ASPLOS, HPCA, S&P, USENIX Security, CCS, NDSS, DAC, ICCAD, and DATE.

Impact factors and Acceptance Rates have been provided for these venues below.

Legend:

All underlined students have been advised by Ashish Venkat

† -- UVA Ph.D. Student advised by Ashish Venkat

‡ -- UVA Undergraduate Researcher advised by Ashish Venkat

|| -- UVA Master's Student advised by Ashish Venkat

-- Industry collaborators

Ceviche: Capability-Enhanced Virtualization of Caches <u>Arnabiyoti Kalita[†]</u>, <u>Yilong Yang[†]</u>, <u>Alenkruth Krishnan Murali[†]</u>, **Ashish Venkat**, In *Proceedings of 46th IEEE Symposium on Security and Privacy (S&P)*, May, 2025 (Accepted in Sep 2024). Acceptance Rate: 14% Impact Factor: 21.96

Detecting and Defending Vulnerabilities in Heterogeneous and Monolithic Systems: Current Strategies and Future Directions Venkat Nitin Patnala, Sai Manoj Pudukotai Dinakarrao, Guru Venkataramani, Jie Chen, Milos Doroslovacki, Fan Yao, Hongyu Fang, Meron Demissie, Todd Austin, Lauren Biernacki, <u>Saket Upadhyay</u>[†], <u>Arnabiyoti Kalita</u>[†], <u>Ashish Venkat</u> In *Proceedings of the 2024 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems* (*CASES*), September 2024.

Special Session Article!

Acceptance Rate: 28%

Tools-Architectural Modeling and Benchmarking for Digital DRAM PIM

Farzana Siddique, Deyuan Guo, Zhenxing Fan, Mohammadhosein Gholamrezaei, Khyati Kiyawat, Morteza Baradaran, Alif Ahmed, Kyle Durrer, Abdullah T. Mughrabi, Hugo Abbot, Ethan Ermovick, **Ashish Venkat**, Kevin Skadron, In *Proceedings of the 2024 IEEE International Symposium on Workload Characterization (IISWC)*, September, 2024. Acceptance Rate: 40%

Hardware Trojan Threats in eNVM Neuromorphic Devices <u>Lingxi Wu</u>[†], Rahul Sreekumar, <u>Rasool Sharifi</u>[†], Kevin Skadron, Mircea Stan, **Ashish Venkat**, In *Proceedings of the 26th Design, Automation and Test in Europe Conference (DATE)*, April, 2023. Acceptance Rate: 25% Impact Factor: 7.26 Nominated for Best Paper Award!

Speculative Code Compaction: Eliminating Dead Code via Speculative Microcode Transformations <u>Logan Moody</u>[†], <u>Wei Qi^{||}</u>, <u>Rasool Sharifi</u>[†], <u>Layne Berry</u>[‡], <u>Joey Rudek</u>[‡], Jayesh Gaur[#], Jeff Parkhurst[#], Sreenivas Subramoney[#], Kevin Skadron, **Ashish Venkat**, In *Proceedings of the 55th ACM/IEEE International Symposium on Microarchitecture (MICRO)*, October, 2022. Acceptance Rate: 23% Impact Factor: 10.2

SecSMT: Securing SMT Processors against Contention-Based Covert Channels Mohammadkazem Taram, <u>Xida Ren</u>[†], **Ashish Venkat**, Dean M. Tullsen, In *Proceedings of the 31st USENIX Security Symposium (USENIX Security)*, Aug, 2022. Acceptance Rate: 17% Impact Factor: 16.86

I See Dead μops: Leaking Secrets via Intel/AMD μop Caches <u>Xida Ren</u>[†], <u>Logan Moody</u>[†], Mohammadkazem Taram, <u>Matthew Jordan</u>^{||}, Dean M. Tullsen, **Ashish Venkat**. In *Proceedings of the 48th International Symposium on Computer Architecture (ISCA)*, June 2021. Acceptance Rate: 18% Impact Factor: 12.02 Significant Press Coverage Received!

Sieve: A Scalable In-Situ DRAM-based Accelerator for Massively Parallel K-mer Matching <u>Lingxi Wu[†]</u>, <u>Rasool Sharifi[†]</u>, Marzieh Lenjani, Kevin Skadron, and **Ashish Venkat**. In *Proceedings of the 48th International Symposium on Computer Architecture (ISCA)*, June 2021. Acceptance Rate: 18% Impact Factor: 12.02

CHEx86: Context-Sensitive Enforcement of Memory Safety via Microcode-Enabled Capabilities. <u>Rasool Sharifi</u>[†] and Ashish Venkat. In Proceedings of the 47th International Symposium on Computer Architecture (ISCA), June 2020. Acceptance Rate: 18% Impact Factor: 12.02 Selected for IEEE TCAD Hardware and Embedded Security Top Picks, 2021!

Packet Chasing: Observing Network Packets over a Cache Side-Channel.
Mohammadkazem Taram, Ashish Venkat, and Dean M. Tullsen.
In Proceedings of the 47th International Symposium on Computer Architecture (ISCA), June 2020.
Acceptance Rate: 18%
Impact Factor: 12.02

Context-Sensitive Fencing: Securing Speculative Execution via Microcode Customization. Mohammadkazem Taram, **Ashish Venkat**, and Dean M. Tullsen. In *Proceedings of the 24th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2019. Acceptance Rate: 21%. Impact Factor: 16.38 Selected for IEEE TCAD Hardware and Embedded Security Top Picks, 2020!

Composite-ISA Cores: Enabling Multi-ISA Heterogeneity using a Single ISA. Ashish Venkat, Harsha Basavaraj, and Dean M. Tullsen. In Proceedings of the 25th International Symposium High Performance Computer Architecture (HPCA), February 2019 Acceptance Rate: 21%. Impact Factor: 14.07 Best Paper Award Runner-Up!

Platform-Agnostic Learning-Based Scheduling Andreas Prodromou, **Ashish Venkat**, and Dean M. Tullsen. In *Proceedings of the 19th International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation (SAMOS)*, July, 2019. **Acceptance Rate: 38%**

Deciphering Predictive Schedulers for Heterogeneous-ISA Architectures Andreas Prodromou, **Ashish Venkat**, Dean M. Tullsen. In *Proceedings of the 10th International Workshop on Programming Models and Applications for Multicores and Manycores* (*PMAM*), February, 2019. Acceptance Rate: 53%

Mobilizing the Micro-Ops: Exploiting Context-Sensitive Decoding for Security and Energy Efficiency. Mohammadkazem Taram, **Ashish Venkat**, and Dean M. Tullsen. In *Proceedings of the 45th International Symposium on Computer Architecture (ISCA)*, June 2018. **Acceptance Rate: 17%. Impact Factor: 12.02 Selected for IEEE Micro Top Picks, 2019!**

Reliability-Aware Data Placement for Heterogeneous Memory Architecture. Manish Gupta, Vilas Sridharan, David Roberts, Andreas Prodromou, **Ashish Venkat**, Dean M. Tullsen, and Rajesh Gupta. In *Proceedings of the 24th International Symposium on High Performance Computer Architecture (HPCA)*, February 2018. Acceptance Rate: 21% Impact Factor: 14.07

HIPStR: Heterogeneous-ISA Program State Relocation. **Ashish Venkat**, Sriskanda Shamasunder, Hovav Shacham, and Dean M. Tullsen. In *Proceedings of the 21st International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2016. **Acceptance Rate: 22% Impact Factor: 16.38** Harnessing ISA Diversity: Design of a Heterogeneous-ISA Chip Multiprocessor.
Ashish Venkat and Dean M. Tullsen.
In Proceedings of the 41st International Symposium on Computer Architecture (ISCA), June 2014.
Acceptance Rate: 18%
Impact Factor: 12.02

Execution Migration in a Heterogeneous-ISA Chip Multiprocessor. Matthew DeVuyst, Ashish Venkat, and Dean M. Tullsen. In Proceesings of the 17th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), March, 2012. Acceptance Rate: 21% Impact Factor: 16.38

Peer-Reviewed Journal Articles

Abakus: Accelerating k-mer Counting With Storage Technology <u>Lingxi Wu</u>, Minxuan Zhou, Weihong Xu, **Ashish Venkat**, Tajana Rosing, Kevin Skadron In ACM Transactions on Architecture and Code Optimization (ACM TACO), November, 2023. **Impact Factor: 1.6**

DRAM-CAM: General-Purpose Bit-Serial Exact Pattern Matching Lingxi Wu, Rasool Sharifi, Ashish Venkat, Kevin Skadron, In *IEEE Computer Architecture Letters (IEEE CAL)*, Issue 2, Jul-Dec, 2022. Impact Factor: 2.118

Mitigating Speculative Execution Attacks via Context-Sensitive Fencing Mohammadkazem Taram, **Ashish Venkat**, Dean M. Tullsen, In HW-Security TopPicks issue of IEEE Design & Test, February 2021 **Impact Factor: 1.77**

Context-Sensitive Decoding: On-Demand Microcode Customization for Security and Energy Management Mohammadkazem Taram, Ashish Venkat, Dean M. Tullsen. In *IEEE Micro, Special Issue on the Top Picks from the Computer Architecture Conferences*, May 2019. Impact Factor: 2.57 Special Issue Acceptance Rate: 9%!

Industry/Government Conference Publications (Peer-Reviewed Abstracts)

Core Fuzzing - A Versatile Platform for Security Verification <u>Alenkruth Krishnan Murali</u>, Ashish Venkat, In *Semiconductor Research Corporation's Annual Technical Conference (SRC TECHCON)*, September, 2023. Industry Conference – Acceptance Rate not available.

ProxyVM: A Scalable and Retargetable Compiler Framework for Privacy-Aware Proxy Workload Generation <u>Xida Ren</u>, Alif Ahmed, Yizhou Wei, Kevin Skadron, **Ashish Venkat**, In *Semiconductor Research Corporation's Annual Technical Conference (SRC TECHCON)*, September, 2022. Industry Conference – Acceptance Rate not available. Fast and Efficient Deployment of Security Defenses Via Context Sensitive Decoding
Mohammadkazem Taram, Dean M. Tullsen, Ashish Venkat, Houman Homayoun, and Sai Manoj PD.
In Proceedings of the 44th Government Microcircuit Applications and Critical Technology Conference (GOMACTech),
March 2019.
Government Conference – Acceptance Rate not available.

Graduate Students Research Advising

Lingxi Wu (Spring 2020-Fall 2023, co-advised by Kevin Skadron) <u>Milestones:</u> Ph.D. Defense Completed. <u>Placement:</u> Architect at Open Sesame. <u>Dissertation Tile:</u> Near-Data Processing for Data-intensive Applications

Logan Moody (Fall 2020-Present) <u>Milestones:</u> Qualifying Exam Completed.

Arnabjyoti Kalita (Fall 2022-Present) <u>Milestones:</u> Qualifying Exam Scheduled.

Alenkruth Krishnan Murali (Fall 2022-Present) <u>Milestones:</u> Qualifying Exam Completed.

Yilong Yang (Fall 2022-Present) <u>Milestones:</u> Qualifying Exam Proposal Completed.

Saket Upadhyay (Fall 2022-Present)

Uday Kiran (Fall 2022-Present, Master's student) <u>Placement:</u> Staff Engineer at AMD.

Conner Ward (Fall 2021-Fall 2022, Master's thesis student) <u>Thesis Topic:</u> Speculative Vector Widening

Wei Qi (Fall 2021-Spring 2022, Master's student) <u>Placement:</u> Ph.D. at Università Bocconi

Undergraduate Students Research Advising

Griffin Chozick (Fall 2023-Present)

Amanda Hail (Spring 2024-Present)

Lars Christensen (Spring 2024-Present)

Alex Schaefer (Spring 2024-Present)

Sam Colvin (Fall 2023-Fall 2024)

Edward Lue (Fall 2022)

Dhruv Pandya (Fall 2022)

Virginia Layne Berry (Summer 2019-Fall 2020) Placement: Ph.D. at University of Texas, Austin Significant Achievements: CRA Outstanding Undergraduate Researcher Award Honorable Mention

Joey Rudek (Summer 2020-Spring 2021) Placement: Ph.D. at University of California, San Diego

Muhammad Abdullah (Fall 2021-Spring 2022) Placement: Law School at Columbia

Grants and Contracts

Apr 2024 – Mar 2028 **DARPA I20: CPM** HERCULES: Hardware-Enhanced Resilient Compartmentalization and Program Analysis for Upgraded Legacy Environment Security Role: Principal Investigator (Prime) Funding Amount: \$4,877,745

NSF CAREER

Oct 2023 - Sep 2028 Enabling Robust and Adaptive Architectures through a Decoupled Security-Centric Hardware/Software Stack Role: Principal Investigator. Funding Amount: \$509,500

NSF PPoSS

Co-designing Hardware, Software, and Algorithms to Enable Extreme-Scale Machine Learning Systems Role: Co-Principal Investigator. Funding Amount: \$3,000,000

Oct 2022 – *Sep* 2027

Oct 2022 - Sep 2025

Jan 2022 – Dec 2024

NSF CCRI

A Scalable Hardware and Software Environment Enabling Secure Multi-party Learning Role: Co-Principal Investigator. Funding Amount: \$1,120,000

SRC CADT

A Scalable and Re-Targetable Compiler Framework for Privacy-Preserving Machine Learning Role: Principal Investigator. Funding Amount: \$297,000

NSF/Intel Foundational Microarchitecture Research (FoMR) *Oct* 2019 – *Sep* 2023 Speculative Super-optimization: Boosting Performance via Speculation-Driven Dynamic Binary Optimization Role: Principal Investigator. Funding Amount: \$416,000

NSF CRII: SaTC Mitigating Software-Based Microarchitectural Attacks via Secure Microcode Customization Role: Principal Investigator Funding Amount: \$174,996	Mar 2019 – Feb 2022
DARPA MTO: SSITH Mobilizing the Micro-Ops: Securing Processor Architectures via Context-Sensitive Decoding Role: Principal Investigator (Sub). Funding Amount: \$1,101,217	Dec 2018 – Mar 2021
NSF CCF: SHF Student Travel Grant for the 26th IEEE International Symposium on High Performance Computer Arch Role: Principal Investigator Funding Amount: \$20,000	<i>Feb 2020 – Jan 2021</i> litecture (HPCA 2020)
Patents	
System, Method, and Computer Readable Medium For Capability-Enhanced Virtualization of Caches <u>Arnabjyoti Kalita</u> , <u>Yilong Yang</u> , <u>Alenkruth Krishnan Murali</u> , Ashish Venkat (Pending)	
Systems, Circuits, Methods, and Articles of Manufacture for DRAM-based Digital Bit-Serial Vector Co Deyuan Guo, <u>Lingxi Wu</u> , Ashish Venkat, Kevin Skadron (Pending)	omputing Architecture
Binary Translation-Driven Program State Relocation. Ashish Venkat, Arvind Krishnaswamy, Yamada Koichi, and Rajan Palanivel. In United States Patent Grant US009135435 B2, September, 2015.	
Invited Talks	
NSF CAREER Panel UVA NSF CAREER Workshop	Mar 2025
Speculative Code Compaction: Eliminating Dead Code via Speculative Microcode Transformations Intel Labs Worldwide (Virtual Tech Talk)	Sep 2022
Mechanism Design for Improving Hardware Security Invited Participant at the CCC Visioning Workshop	Aug 2022
Speculative Super-optimization: Boosting Performance via Speculation-Driven Dynamic Binary Optim Intel Labs Worldwide (Virtual Tech Talk)	ization Oct 2021
I See Dead μops: Leaking Secrets via Intel/AMD μop Caches Intel Labs Worldwide (Virtual Tech Talk)	Apr 2021

Speculative Super-optimization: Boosting Performance via Speculation-Driven Dynamic Binary OptimizationJun 2020Intel Labs Worldwide (Virtual Tech Talk)

Fast and Efficient Deployment of Security Defenses via Microcode Customization. University of Cambridge, UK.	Nov 2019
Breaking the ISA Barrier in Modern Computing. North Carolina State University, Raleigh.	Mar 2019
Composite-ISA Cores: Enabling Multi-ISA Heterogeneity using a Single ISA. HPCA 2019, Best Paper Session.	Feb 2019
Mobilizing the Micro-Ops: Exploiting Context-Sensitive Decoding for Performance and Security. Intel Labs, Santa Clara.	Aug 2018
Breaking the ISA Barrier in Modern Computing. Northeastern University, Boston.	May 2018
Exploiting Multi-ISA Architectures for Security and Efficiency. Qualcomm, San Diego.	April 2017
Breaking the ISA Barrier in Modern Computing. Intel Research Lab, Haifa, Israel.	Nov 2016
Breaking the ISA Barrier in Modern Computing. Technion, Israel.	Nov 2016
HIPStR: Smashing ROP Gadgets via Cross-ISA Process Migration. IBM Haifa Research Lab, Israel.	Oct 2016
Breaking the ISA Barrier in Modern Computing. IBM Haifa Research Lab, Israel.	Aug 2016
HIPStR: Heterogeneous-ISA Program State Relocation. ASPLOS 2016, Atlanta.	Apr 2016
Heterogeneous-ISA Chip Multiprocessors. AMD Research, Sunnyvale.	Oct 2014
Harnessing ISA Diversity: Design of a Heterogeneous-ISA Chip Multiprocessor. ISCA 2014, Minneapolis.	Jun 2014
Execution Migration in a Heterogeneous-ISA Chip Multiprocessor. ASPLOS 2012, London, UK.	Mar 2012

Teaching Experience

Assistant Professor, University of Virginia

CS 6354, Graduate Computer Architecture (Fall 2019, Fall 2021, Fall 2022, Fall 2025) CS 3330, Undergraduate Computer Architecture (Spring 2019, Spring 2020, Spring 2021, Spring 2022) CS 6501/4501, Graduate/Undergraduate Hardware Security (Fall 2018, Fall 2020, Spring 2023) CS 4330, Advanced Computer Architecture (Spring 2025)

Guest Lecturer

CS 6190, Computer Science Perspectives (Fall 2018, Fall 2019, Fall 2020, Fall 2024) CS 6354, Graduate Computer Architecture (Fall 2018) CSE 141, Introduction to Computer Architecture at UC San Diego (Winter 2015, Winter 2017).

Internal Departmental/University Service

SEAS Computer Engineering Qualification Exam Committee, Member (2023-2025)

SEAS Computer Engineering Strategic Committee (2022-2023)

SEAS Graduate Fellowship Committee (2024)

CS Faculty Search Committee, Systems Area Coordinator (2021-2022)

SEAS Computer Engineering Qualification Exam Committee, Chair (2020-2021)

SEAS Computer Engineering Graduate Program Committee, Member (2020-2021, 2023-2025)

SEAS Computer Engineering Qualification Exam Committee, Member (2019-2020)

CS Faculty Search Committee, Member (2018-2019)

Computing Systems Committee, Member (2019-2025)

Thesis Defense Committees

Rahul Sreekumar, Fall 2024 Alif Ahmed, Spring 2023 Vaibhav Verma, Spring 2022 Marzieh Lenjani, Fall 2020 Reza Rahimi, Fall 2020 Chunkun Bo, Fall 2019 Elaheh Sadredini, Spring 2019 (Chair)

Ph.D. Qualifying Examination Committees

Akhil Shekar, Spring 2023 Alif Ahmed, Spring 2021 Alan Wang, Summer 2020 Yipei Song, Summer 2020 Jerry Xing, Summer 2020 Aaron Kinfe, Summer 2020 Qi Liu, Summer 2020 Yujia Mu, Summer 2020 Alif Ahmed, Summer 2020 Lingxi Wu, Spring 2020 (Chair) Marzieh Lenjani, Fall 2019

External Professional Service

Organizing Committee

Student Travel Chair, IEEE/ACM International Symposium on Microarchitecture (MICRO), 2020, 2021, 2022 Student Travel Chair, IEEE International Symposium on High Performance Computer Architecture (HPCA), 2020

Awards Selection Committee

IEEE Micro Top Picks, 2022, 2024, 2025 HPCA Best Paper Committee, 2025

Program Committee

ACM/IEEE International Symposium on Computer Architecture (ISCA), 2019, 2020, 2021, 2022, 2023, 2024, 2025 IEEE/ACM International Symposium on Microarchitecture (MICRO), 2022, 2023 ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2023, 2024. 2025, 2026 IEEE International Symposium on High Performance Computer Architecture (HPCA), 2020, 2024, 2025 ACM International Conference on Supercomputing (ICS), 2024, 2025 IEEE International Parallel & Distributed Processing Symposium (IPDPS), 2021 IEEE International Conference on Computer Design (ICCD), 2019, 2021, 2022 ACM International Workshop on Hardware and Architectural Support for Security and Privacy, 2020, 2021, 2022 IEEE International Symposium on Secure and Private Execution Environment Design (SEED), 2021, 2022, 2023 ACM Student Research Competition (SRC) in conjunction with ASPLOS, 2019 Young Architect Workshop (YArch) in conjunction with HPCA/ASPLOS, 2019, 2020

National Science Foundation (NSF) Panel

Spring 2020, Spring 2022, Spring 2023

Department of Energy (DoE) Panel

Spring 2024

External Review Committee

IEEE/ACM International Symposium on Microarchitecture (MICRO), 2020, 2021 ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2020 IEEE International Symposium on High Performance Computer Architecture (HPCA), 2023 IEEE International Symposium on Quality Electronic Design (ISQED), 2012

Journal Peer Review

ACM Transactions on Architecture and Code Optimization, 2021 IEEE Transactions on Computers, 2020, 2022 IEEE Micro, 2015, 2019, 2022, 2023 IEEE Computer Architecture Letters, 2015, 2019, 2021, 2022, 2023 IEEE Transactions on Parallel and Distributed Systems (TPDS), 2017, 2018 IEEE Concurrency and Computation, Practice and Experience (CCPE), 2019 Journal of Systems and Software (JSS), 2015

References

Made available upon request.