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ROHIT ZAMBRE

I Education

Ph.D., Computer Engineering, University of California, Irvine, 2020.

Dissertation: [Exascalable Communication for Modern Supercomputing](#).

Advisor: [Aparna Chandramowlishwaran](#).

[ACM SIGHPC Outstanding Doctoral Dissertation Award](#).

M.S., Computer Engineering, University of California, Irvine, 2017.

Thesis: [Adaptive Parallelism in Browsers](#).

B.S., Electrical Engineering, Iowa State University, 2015.

Concentration: Computer Engineering.

Magna Cum Laude.

II Appointments

Research

Senior Software Architect, NVIDIA, 2022–present.

HPC Architecture Researcher, AMD Research, 2021–2022.

Graduate Student Researcher, University of California, Irvine, 2015–2020.

Visiting Student, Argonne National Laboratory, 2017–2020.

Research Intern, Arm Research, Summer 2018.

Research Aide, Argonne National Laboratory, Spring and Summer 2017.

Research Assistant, Mozilla Research, Summer 2016.

Engineering

Intern SSD Modeling Engineer, Micron Technology, Summer 2014.

NAND Product Engineering Intern, Micron Technology, Summer 2013.

Teaching

Graduate Teaching Assistant, University of California, Irvine, Fall 2016.

Peer Mentor, Iowa State University, 2012–2015.

Undergraduate Teaching Assistant, Iowa State University, Fall 2013.

III Honors & awards

- [9] ACM SIGHPC Early Career Travel Grant to attend the ACM/IEEE Supercomputing Conference (SC), 2022.
- [8] AMD Research Spotlight Award, Quarter 1 2022.
- [7] ACM SIGHPC Outstanding Doctoral Dissertation Award, presented at the ACM/IEEE Supercomputing Conference (SC), 2021.
Press: [ACM SIGHPC announcement](#), [UC Irvine news](#), [HPCwire news](#).
- [6] Contributor to an R&D 100 Award winner: Unified Communication X (UCX), 2019.
Press: [Argonne National Laboratory](#)
- [5] Best Poster Presentation Award, presented at the IEEE International Conference on Parallel and Distributed Systems (ICPADS), 2018.
- [4] Winner, People's Choice & Judges' Choice, Graduate Research Symposium, UC Irvine, 2016
- [3] Tau Beta Pi Scholarship ([announcement](#)), 2014.
- [2] College of Engineering Scholarships, Iowa State University, 2014 and 2012.
Adolph Shane Scholarship, 2014.
Arthur Edwin Zahller Endowed Scholarship, 2012.
- [1] Gold-level International Student Ambassador Scholarship, Iowa State University, 2011–2015.

IV Refereed research

Journal articles

- [J2] Rohit Zambre, Damodar Sahasrabudhe, Hui Zhou, Martin Berzins, Aparna Chandramowlishwaran, Pavan Balaji. "[Logically Parallel Communication for Fast MPI+Threads Applications](#)." IEEE Transactions on Parallel and Distributed Systems (TPDS), April 2021.
- [J1] Damodar Sahasrabudhe, Rohit Zambre, Aparna Chandramowlishwaran, Martin Berzins. "[Optimizing the Hypr solver for manycore and GPU architectures](#)." Elsevier Journal of Computational Science (JCS), December 2020.

Conference proceedings

- [C5] Rohit Zambre, Aparna Chandramowlishwaran. “[Lessons Learned on MPI+Threads Communication.](#)” ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Dallas, TX, USA, November 2022.
- [C4] Rohit Zambre, Aparna Chandramowlishwaran, Pavan Balaji. “[How I Learned to Stop Worrying About User-Visible Endpoints and Love MPI.](#)” 34th ACM International Conference of Supercomputing (ICS), Worldwide online event, June 2020.
- [C3] Rohit Zambre, Megan Grodowitz, Aparna Chandramowlishwaran, Pavel Shamis. “[Breaking Band: A Breakdown of High-Performance Communication.](#)” 48th ACM International Conference on Parallel Processing (ICPP), Kyoto, Japan, August 2019.
- [C2] Rohit Zambre, Aparna Chandramowlishwaran, Pavan Balaji. “[Scalable Communication Endpoints for MPI+Threads Applications.](#)” 24th IEEE International Conference on Parallel and Distributed Systems (ICPADS), Sentosa, Singapore, December 2018.
- [C1] Rohit Zambre, Lars Bergstrom, Laleh Beni, Aparna Chandramowlishwaran. “[Parallel Performance-Energy Predictive Modeling of Browsers: Case Study of Servo.](#)” 23rd IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, December 2016.

Posters

- [P4] Rohit Zambre. “The Coming of Age of Multithreaded High-Performance Communication.” Doctoral Showcase at the ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Atlanta, GA, USA, November 2020.
- [P3] Rohit Zambre, Aparna Chandramowlishwaran, Pavan Balaji. “Scalable Communication Endpoints for MPI+Threads Applications.” IEEE International Conference on Parallel and Distributed System (ICPADS), Sentosa, Singapore, December 2018. [Best Poster Presentation Award.](#)
- [P2] Rohit Zambre, Abdelhalim Amer, Aparna Chandramowlishwaran, Pavan Balaji. “Evaluating Multiple Endpoints for MPI with libverbs.” 24th ACM European MPI Users’ Group Meeting (EuroMPI/USA), Chicago, IL, USA, September 2017.

- [P1] Rohit Zambre, Lars Bergstrom, Laleh Beni, Aparna Chandramowlishwaran. “Parallel Performance-Energy Predictive Modeling of Browsers: Case Study of Servo.” ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Salt Lake City, UT, USA, November 2016.

V Presentations

- Tutorials**
- “RDMA and Verbs.” [HPC-AI Advisory Council 11th RDMA Programming Competition](#), August 2023.
 - “Introduction to MPI.” [HPC-AI Advisory Council 10th RDMA Programming Competition](#), August 2022.
- Invited talks**
- “Exascalable Communication for Modern Supercomputing.” Pacific Northwest National Laboratory, October 2021.
 - “The Coming of Age of Multithreaded High-Performance Communication.” AMD Research, September 2020.
 - “Leveraging SC to Learn High-Performance Communication.” The 6th Workshop on Best Practices for HPC Training and Education (BPHTe), November 2019.
 - “Scalable Communication Endpoints for MPI+Threads Applications.” Arm Research, September 2018.
- Conferences**
- “Lessons Learned on MPI+Threads Communication.” ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Dallas, TX, USA, November 2022.
 - “The Coming of Age of Multithreaded High-Performance Communication.” ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Online, November 2020.
 - “How I Learned to Stop Worrying About User-Visible Endpoints and Love MPI.” ACM International Conference on Supercomputing (ICS), Online, June 2020.
 - “Breaking Band: A Breakdown of High-Performance Communication.” ACM International Conference on Parallel Processing (ICPP), Kyoto, Japan, August 2019.
 - “Scalable Communication Endpoints for MPI+Threads Applications.” IEEE International Conference on Parallel and Distributed Systems (ICPADS), Sentosa, Singapore, December 2018.

“Parallel Performance-Energy Predictive Modeling of Browsers: Case Study of Servo.”
IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, December 2016.

Other “Parallel Performance-Energy Predictive Modeling of Browsers: Case Study of Servo.”
UCI Graduate Research Symposium, Irvine, CA, USA, April 2016. **Winner, People’s Choice & Judge’s Choice.**

VI Service

Standards committee Participant, MPI Forum Hybrid Working Group.

Peer reviewing Program committee, OpenFabrics Alliance (OFA) Virtual Workshop (OFAWS), 2024.
Reproducibility challenge committee, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2024.
Reviewer, Wiley Concurrency and Computation: Practice and Experience (CPE), 2023.
Reviewer, IEEE Transactions on Parallel and Distributed Systems (TPDS), 2023.
Program committee, Performance Measurement, Modeling, and Tools, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2023.
Artifact Description/Evaluation committee, ACM International Conference on Parallel Processing (ICPP), 2023.
Reproducibility challenge committee, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2023.
Program committee, Programming Models, Compilers, and Runtime Systems track, 37th IEEE International Parallel and Distributed Processing Symposium (IPDPS), 2023.
Student volunteer applications, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2022.
Program committee, 18th OpenFabrics Alliance (OFA) Workshop, 2022.
Research posters, International Supercomputing Conference (ISC), 2022.
Program committee, Programming Models and Systems Software track, 5th International Conference on High Performance Computing (HPC Asia), 2022.
Research posters, International Supercomputing Conference (ISC), 2021.

Student volunteer applications, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2020.

Student volunteer applications, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2019.

**Conference
organization**

Program Co-Chair, 30th IEEE Hot Interconnects Symposium (HotI), 2023.

Program Co-Chair, 29th IEEE Hot Interconnects Symposium (HotI), 2022.

Online Conference Co-Chair, 29th IEEE Hot Interconnects Symposium (HotI), 2022.

Web Chair, 28th IEEE Hot Interconnects Symposium (HotI), 2021.

Lead Student Volunteer, ACM/IEEE ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2020 and 2019.

Web Chair, 9th IEEE International Workshop on Accelerators and Hybrid Exascale Systems (AsHES), 2019.

Student Volunteer, ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis (SC), 2018, 2017 and 2016.

**Student
organization**

Engineering council member, Associated Graduate Students, Univeristy of California, Irvine, 2016–2017.

President and Treasurer, Indian Students' Association, Iowa State University, 2012–2014.