

Rohit Zambre

PH.D. CANDIDATE · COMPUTER SCIENCE & ENGINEERING

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Education

University of California, Irvine

PH.D. COMPUTER ENGINEERING

- Advisor: Dr. Aparna Chandramowlishwaran

Irvine, CA, USA

September 2015 - December 2020

University of California, Irvine

M.S. COMPUTER ENGINEERING

- Thesis: Adaptive Parallelism in Browsers

Irvine, CA, USA

September 2015 - March 2017

Iowa State University

B.S. ELECTRICAL ENGINEERING

- Magna Cum Laude

Ames, IA, USA

August 2011 - May 2015

Honors

SCHOLARSHIPS & AWARDS

2019	Lead Student Volunteer , IEEE/ACM SC'19	Denver, CO, USA
2018	Best Poster Award , IEEE ICPADS'18	Sentosa, Singapore
2018	Student Volunteer , IEEE/ACM SC'18	Dallas, TX, USA
2017	Student Volunteer , IEEE/ACM SC'17	Denver, CO, USA
2017	Excellence in Engineering Communications , School of Engineering, UC Irvine	Irvine, CA, USA
2016	Student Volunteer , IEEE/ACM SC'16	SLC, UT, USA
2016	Winner, People's Choice & Judges' Choice , Graduate Research Symposium, UC Irvine	Irvine, CA, USA
2015	Cardinal Key Honor Society , Iowa State University	Ames, IA, USA
2014	Tau Beta Pi Scholarship , Tau Beta Pi Fellowship Board	Ames, IA, USA
2014	Adolph Shane Scholarship , College of Engineering, Iowa State University	Ames, IA, USA
2012	Arthur Edwin Zahller Endowed Scholarship , College of Engineering, Iowa State University	Ames, IA, USA
2011	International Student Ambassador Scholarship , International Admissions Office, Iowa State University	Ames, IA, USA

TRAVEL AWARDS

2019	Student Travel Grant , IEEE/ACM SC'19	Denver, CO, USA
2017	Student Travel Grant , IEEE/ACM SC'17	Denver, CO, USA
2016	IEEE TCPP Travel Award , IEEE HiPC'16	Hyderabad, India
2016	AGS Travel Grant , IEEE HiPC'16	Hyderabad, India

Research and Development Experience

Argonne National Laboratory

VISITING STUDENT

- Elevating hybrid MPI+threads communication through virtual communication interfaces (VCIs) inside the MPI library [C4].

Lemont, IL, USA

October 2017 - Present

Arm Research

INTERN, RESEARCH

- Analyzed software and PCIe overheads of sending a message over InfiniBand with UCX on ThunderX2 [C3, P3].

Austin, TX, USA

June 2018 - September 2018

Argonne National Laboratory

RESEARCH AIDE

- Explored tradeoff space between performance and resource-sharing of InfiniBand in multithreaded environments. [C2, P2].

Lemont, IL, USA

April 2017 - September 2017

Mozilla Research

RESEARCH ASSISTANT

- Investigated a reliable testbed configuration for evaluating Servo on Android.

Irvine, CA, USA

June 2016 - September 2016

University of California, Irvine

GRADUATE STUDENT RESEARCHER

- Modeled parallel performance of Servo with DOM characteristics using machine learning [C1].

Irvine, CA, USA

September 2015 - April 2017

Engineering Experience

Intel Corporation

HACKATHON PARTICIPANT

- Developed a multi-VCI infrastructure for MPICH in collaboration with the Intel MPICH team during a week-long hackathon.

Austin, TX, USA

January 2020

Micron Technology, Inc.

INTERN SSD MODELING ENGINEER

- Developed two calibration routines for the NAND read reference voltage level.

Longmont, CO, USA

May 2014 - August 2014

Micron Technology, Inc.

NAND PRODUCT ENGINEERING INTERN

- Designed and developed a test to monitor the aftereffects of a stress process.

Boise, ID, USA

May 2013 - August 2013

Teaching Experience

University of California, Irvine

GRADUATE TEACHING ASSISTANT, COMPUTER ENGINEERING

- Course: EECS 215 – Design and Analysis of Algorithms
- Led weekly discussions to reinforce concepts and answer queries.

Irvine, CA, USA

September 2016 - December 2016

Iowa State University

PEER MENTOR, ELECTRICAL ENGINEERING

- Course: E E 185 – Introduction to Electrical Engineering and Problem Solving I.
- Engaged with first-year EE students and peer mentors to improve and promote inquiry-based, systems-level thinking.

Ames, IA, USA

January 2012 - May 2015

Iowa State University

UNDERGRADUATE TEACHING ASSISTANT, COMPUTER ENGINEERING

- Course: CPR E 288 – Embedded Systems.
- Graded students' homework and engaged with them during lab session to answer queries.

Ames, IA, USA

August 2013 - December 2013

Publications

PAPERS

- C4. **Rohit Zambre**, Aparna Chandramowlishwaran, Pavan Balaji. How I Learned to Stop Worrying about User-Visible Endpoints and Love MPI. In Proceedings of the 34th ACM International Conference on Supercomputing (**ICS**), Barcelona, Spain, June 2020.
- C3. **Rohit Zambre**, Megan Grodowitz, Aparna Chandramowlishwaran, Pavel Shamis. Breaking Band: A Breakdown of High-performance Communication. In Proceedings of the 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. In Proceedings of the 24th IEEE International Conference on Parallel and Distributed Systems (**ICPADS**), Sentosa, Singapore, December 2018. **Best Poster Award**.
- C1. **Rohit Zambre**, Lars Bergstrom, Laleh Beni, Aparna Chandramowlishwaran. Parallel Performance-Energy Predictive Modeling of Browsers: Case Study of Servo. In Proceedings of the 23rd IEEE International Conference on High Performance Computing, Data, and Analytics (**HiPC**), Hyderabad, India, December 2016.

POSTERS

- P3. Pavel Shamis, **Rohit Zambre**. Understanding Network and PCIe Performance (ThunderX2 Study). Internal Arm Conference (Peer reviewed), 2019.
- P2. **Rohit Zambre**, Abdelhalim Amer, Aparna Chandramowlishwaran, Pavan Balaji. Evaluating Multiple Endpoints for MPI with libibverbs. 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 on High-performance Computing, Networking, Storage, and Analysis (**SC**), Salt Lake City, UT, USA, November 2016.

Presentations

The 6th SC Workshop on Best Practices for HPC Training and Education (BPHE'19)

LEVERAGING SC TO LEARN HIGH-PERFORMANCE COMMUNICATION.

Denver, CO, USA

November 2019

Invited talk at Arm Research

SCALABLE COMMUNICATION ENDPOINTS FOR MPI+THREADS APPLICATIONS

Austin, TX, USA

August 2018

AGS Graduate Research Symposium. **Winner, People's Choice & Judge's Choice.**

PARALLEL PERFORMANCE-ENERGY MODELING AND PREDICTION OF WEB BROWSERS: CASE STUDY OF SERVO
(<https://youtu.be/tXUXodOHKZ0>)

Irvine, CA, USA

April 2016

Skills

Programming	C, Python, R, MATLAB, Java
Frameworks	InfiniBand, OpenMP, MPI
Tools	Git, LaTeX, RStudio
Languages	English, Hindi, Marathi, Bahasa Indonesia

Activities

The 9th International Workshop on Accelerators and Hybrid Exascale Systems (AsHES'19)

WEB CHAIR

Rio de Janeiro, Copacabana, Brazil

May 2019

Associated Graduate Students (AGS) Council, UC Irvine

ENGINEERING COUNCIL MEMBER

Irvine, CA, USA

May 2016 - September 2017

Indian Students' Association, Iowa State University

PRESIDENT

Ames, IA, USA

January 2013 - January 2014

Indian Students' Association, Iowa State University

TREASURER

Ames, IA, USA

January 2012 - January 2013