

Arjun Rawal

arjunrawal4@uchicago.edu · arjunrawal.me

Education

University of Chicago, Chicago, IL 2019 - 2020 (expected)
M.S. in Computer Science
GPA: 3.85/4.00

University of Chicago, Chicago, IL 2016 - 2020 (expected)
B.S. in Computer Science, Mathematics
GPA: 3.70/4.00

Research Experience

Research Assistant, Large-Scale Systems Group June 2018 - present
University of Chicago, Chicago, IL
Advisor: Andrew A. Chien

Publications

Programmable Acceleration for Sparse Matrices in a Data-Movement Limited World

Arjun Rawal, Yuanwei Fang, and Andrew A. Chien.

In *IEEE International Parallel and Distributed Processing Symposium Workshops*

DOI:10.1109/IPDPSW.2019.00016

IPDPSW, 2019

Presentations

Programmable Acceleration for Sparse Matrices in a Data-Movement Limited World

Arjun Rawal, Yuanwei Fang, and Andrew A. Chien

Heterogeneity in Computing Workshop (HCW).

Rio de Janeiro, Brazil, March 2019

Posters

Project 38: Accelerating Architecture Innovation into Fieldable Extreme-Scale Systems (A Cross-Agency Effort)

John Shalf, Dilip Vasudevan, David Donofrio, Anastasia Butko, Andrew A. Chien, Yuanwei Fang, Arjun Rawal, Chen Zou, Ray Bair, Kris Keipert, Arun Rodriguez, Maya Gokhale, Scott Lloyd, Xiaochen Guo, Yuan Zeng

SC19: The International Conference for High Performance Computing, Networking, Storage, and Analysis

Denver, CO, November 2019

Accelerating Sparse Matrix Computation Using the UDP/Recoding Engine

Arjun Rawal, Yuanwei Fang, and Andrew A. Chien

8th Greater Chicago Area Systems Research Workshop.

Chicago, IL, May 2019

Accelerating Sparse Matrix Computation Using the UDP/Recoding Engine

Arjun Rawal, Yuanwei Fang, and Andrew A. Chien

CERES Research Summit.

Chicago, IL, April 2019

Accelerating Sparse Matrix Vector Product with the Recoding Engine

Arjun Rawal, Yuanwei Fang, and Andrew A. Chien

CERES Research Summit

Chicago, IL, September 2018

Professional Experience

SDE Intern, Batch Operations

June 2019 - September 2019

S3, Amazon Web Services, Seattle, WA

- Worked on Java based service oriented architecture supporting millions of batch jobs on billions of S3 objects per day.
- Designed and implemented new batch operations to allow placing legal protections on S3 objects. Scheduled for public release in October 2019.
- Implemented new resourcing and permissions validations to fail incorrectly configured jobs before they are scheduled.

Software Development Engineer Intern

June 2018 - September 2018

John D. and Catherine T. MacArthur Foundation, Chicago, IL

- Converted and updated Foundation APIs to latest .NET Core and scripted automated stand up of web servers to allow for simple deployments.
- Implemented continuous monitoring of web resources for security and reliability.
- Configured and scripted automated installation and updates for internal foundation computers using active directory.

Software Development Engineer Intern

June 2017 - November 2017

Halo Investing, Chicago, IL

- Worked with a team to design and implement a structured notes platform to allow real time pricing, trading, and auctions.
- Developed across the stack in Python, MySQL, Javascript, HTML, and CSS.

Honors and Awards

Technical Committee on Parallel Processing Award Recipient

2019

University of Chicago Dean's List

2017 - 2019

Dean's Fund for Undergraduate Research

2019

Relevant Coursework

Computer Science: Parallel Computing · Computer Architecture · Operating Systems · Networks and Distributed Systems · Cryptography · Algorithms · Programming Language Theory · Complexity Theory · Formal Languages

Mathematics: Abstract Linear Algebra · Basic Algebra · Analysis · Statistical Models and Methods · Discrete Mathematics

Technologies

Languages: C, Python, Java, Bash, Haskell, JavaScript, SML, C#, C++, R, \LaTeX