Junqiao Qiu

Rekhi 310, Michigan Technological University
Houghton MI, 49931
https://junqiao-qiu.github.io/website/

Phone: 951-941-2920
Email: junqiaoq@mtu.edu
Alt: jqiu004@gmail.com

Education

2015 – 2020	**University of California, Riverside**, USA. Ph.D. in Computer Science Advisor: Prof. Zhijia Zhao
2011 – 2015	**Sun Yat-sen University**, China. B.S. in Electronics and Communications Engineering

Professional Experience

2020.8 – Current	Assistant Professor at Michigan Technological University
2018.6 – 2020.8	Research Associate at University of California, Riverside
2017.9 – 2018.6	Teaching Assistant at University of California, Riverside
2016.6 – 2016.9	Research Intern at Pacific Northwest National Laboratory

Research Interests

Programming Systems and Runtime Support for Parallel Computing
Parallelization for Data-intensive Applications
Programming Models for Irregular Applications

Honors and Awards

2020	ASPLOS 2020 Best Paper Award
2020	ACM SIGPLAN PAC Award
2019	DYP Award, University of California, Riverside
2019	NSF Travel Grants, CGO 2019
2019	Conference Travel Grants, University of California, Riverside
2017	Deans Distinguished Fellowship, University of California, Riverside
2016	NSF Travel Grants, PACT 2016

Teaching Experience

2021 Spring	Instructor, CS 3421 Computer Organization, Michigan Tech
2020 Fall	Instructor, CS 5090 High Performance Computing, Michigan Tech
2018 Spring	Lab Instructor, CS 010 Introduction to Computer Science, UCR
2018 Winter	Teaching Assistant, CS 201 Compiler Construction, UCR
2018 Winter	Lab Instructor, CS 100 Software Construction, UCR
2017 Fall	Lab Instructor, CS 005 Introduction to Computer Programing, UCR

Publications

ASPLOS'21 **Junqiao Qiu**, Xiaofan Sun, Amir Hossein Nodehi Sabet, and Zhijia Zhao. Scalable FSM Parallelization via Path Fusion and Higher-Order Speculation. *Accepted by the 26th International Conference on Architectural Support for Programming Languages and Operating System*, 2021. Acceptance rate 18.8% (75/398)

VLDB'21 Lin Jiang, **Junqiao Qiu**, and Zhijia Zhao. Scalable Structural Index Construction for JSON Analytics. *Accepted by the 47th International Conference on Very Large Data Bases*, 2021.

ASPLOS'20 **Junqiao Qiu**, Lin Jiang and Zhijia Zhao. Challenging Sequential Bitstream Processing via Principled Bitwise Speculation. In *Proceedings of the 25th International Conference on Architectural Support for Programming Languages and Operating System*, 2020. Acceptance rate 18% (86/476) Best Paper Award

TACO'20 Amir Hossein Nodehi Sabet, **Junqiao Qiu**, Zhijia Zhao, and Sriram Krishnamoorthy. Reliability Analysis for Unreliable FSM Computations. In *ACM Transactions on Architecture and Code Optimization*, 2020.

CGO'19 Ruiqin Tian*, **Junqiao Qiu***, Zhijia Zhao, Xu Liu, and Bin Ren. Transforming Query Sequences for High-Throughput B+ Tree Processing on Many-core Processors. In *Proceedings of International Symposium on Code Generation and Optimization*, 2019. Acceptance rate 30.4% (21/69) (*co-primary)

ASPLOS'18 Amir Hossein Nodehi Sabet, **Junqiao Qiu**, and Zhijia Zhao. Tigr: Transforming Irregular Graphs for GPU-Friendly Graph Processing. In *Proceedings of the 23th International Conference on Architectural Support for Programming Languages and Operating Systems*, 2018. Acceptance rate 17.5% (56/319)

ICS'17 **Junqiao Qiu**, Zhijia Zhao, Bo Wu, Abhinav Vishnu and Shuaiwen Leon Song. Enabling Scalability-Sensitive Speculative Parallelization for FSM Computations. In *Proceedings of the International Conference on Supercomputing*, 2017. Acceptance rate 15.8% (28/177)

PACT'16 **Junqiao Qiu**, Zhijia Zhao, and Bin Ren. MicroSpec: Speculation-centric fine-grained parallelization for FSM computations. In *Proceedings of the 25th International Conference on Parallel Architecture and Compilation Techniques*, 2016. Acceptance rate 26% (31/119)

ICSAI'14 **Junqiao Qiu**, Weibing Li, Yunong Zhang, Senbo Fu, and Hongzhou Tan. Two numerical algorithms and numerical experiments for efficiently solving inequality-and-bound constrained QP. In *Proceedings of the International Conference on Systems and Informatics*, 2014. Published during undergraduate at SYSU

Talks

2020.03 "*Model-Centric Speculative Parallelization for Scalable Data Processing*", Lehigh University.

2020.02 "*Model-Centric Speculative Parallelization for Scalable Data Processing*", College of William and Mary.

2017.06 "*Enabling Scalability-Sensitive Speculative Parallelization for FSM Computations*", International Conference on Supercomputing, Chicago, Illinois, USA.

2016.09 "*MicroSpec: Speculation-centric fine-grained parallelization for FSM computations*", International Conference on Parallel Architectures and Compilation, Haifa, Israel.

2016.08 "*Scalability-Driven Performance and Energy Analysis as well as Optimization for FSM*", Pacific Northwest National Laboratory, Richland, Washington, USA.

Professional Services

Paper Reviewer (since 2020)	TKDE2020, IPDRM'20
Other Services	Publication Chair in ASPLOS'21
	PC Member in HIPS'21
	Artifact Evaluation Committee Member in OOPSLA'19
	co-Coach of UCR team for ACM International Collegiate Programming Contest (ICPC) 2017