Xing Hu

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Research Interests

My research focuses on building more trustworthy distributed systems, primarily through leveraging modern networking technology and improving robustness to the malicious behavior of processes. I study the power of remote direct memory access (RDMA) and persistent memory (PMEM) to solve fundamental problems, like register implementation and consensus, and am interested in designing algorithms that satisfy more stringent safety requirement and provide better fault tolerance for modern distributed systems. I'm also open to all fascinating areas in computer science including but not limited to: cloud computing, network security, blockchain technology, and data protection.

Education

University of Toronto, Toronto, Canada	Jun.2020 -
Ph.D. Candidate, Computer Science	
Advisors: Sam Toueg and Vassos Hadzilacos	
University of Toronto, Toronto, Canada	Sep.2018 - Jun.2020
Master of Science, Computer Science	
Thesis: Optimal Register Construction in M&M Systems	
Advisors: Sam Toueg and Vassos Hadzilacos	
University of Toronto, Toronto, Canada	Sep.2015 - Jun.2018
Bachelor of Science, major in Computer Science, Statistics and Mathematics	
GPA:3.97 (Dean's List)	

Publications & Preprints

o Xing Hu, Sam Toueg. **On implementing SWMR registers from SWSR registers in systems with Byzantine failures**. *International Symposium on Distributed Computing (DISC), 2022.*

o Vassos Hadzilacos, Xing Hu, Sam Toueg. **Randomized Consensus with Regular Registers**. *Information Processing Letters, 2022.*

o Vassos Hadzilacos, Xing Hu, Sam Toueg. **On Atomic Registers and Randomized Consensus in M&M systems**. *Distributed Computing, 2022*

o Vassos Hadzilacos, Xing Hu, Sam Toueg. **On Register Linearizability and Termination**. *ACM Symposium on Principles of Distributed Computing (PODC), 2021.*

o Vassos Hadzilacos, Xing Hu, Sam Toueg. **Optimal Register Construction in M&M Systems**. *International Conference on Principles of Distributed Systems (OPODIS), 2019.*

o David Yu Cheng Chan, Vassos Hadzilacos, Xing Hu, Sam Toueg. **An Impossibility Result on Strong Linearizability in Message-Passing Systems**. *In submission.*

Work Experience

Research Intern, Cerebri AI, Toronto, Canada   May.2017 - Aug.2017
Unsupervised Learning on Enterprise Real-Time Data
Worked on unsupervised learning and reinforcement learning on enterprise real time data, supervised by Gabriel Silberman and Michael Roberts.

Teaching Assistantship

University of Toronto   Sep.2017 - Present

CSC 2221 - Theory of Distributed Computing (graduate course)
CSC 373 - Algorithm design, analysis, and complexity
CSC 263 - Data Structures and Analysis
CSC 236 - Introduction to the theory of computation
CSC 165 - Mathematical expression and reasoning for Computer Science

Graduate Coursework

System Modelling and Analysis	Fall 2021
Topics in Mobile, Pervasive and Cloud Computing	Winter 2021
Algorithms for Collective Decision-Making	Winter 2020
Topics in Software Engineering: Blockchain Technology and Engineering	Fall 2019
Topics in Storage Systems	Winter 2019
Algorithms & Complexity in Private Data Analysis	Fall 2018
Quantum Computing, Foundations to Frontier	Fall 2018
Fundamentals of Cryptography	Fall 2018