

## EDUCATION

- University of Electronic Science and Technology of China** Sichuan, China  
 Bachelor in Information Security; GPA: 87.7/100 2014.09 – 2018.06  
*Core courses: Cryptography, Computer Networks, Operating Systems, Database, Calculus, Linear Algebra, Mathematical Statistics*
- National University of Singapore** Singapore  
 Doctor of Philosophy in Industrial Systems Engineering; GPA: 4.75/5.00 2018.08 – 2023.02  
*Core Courses: Optimization, Stochastic Processes, Forecasting Methods, Randomized Algorithms*  
*Research: Graph Algorithms, Blockchain (Advised by Chee Yeow Meng and Jing Tang)*

## HONORS AND AWARDS

- ACM-ICPC Asia Hong Kong Regional Contest, Golden Medal 2016
- ACM-ICPC Asia Qingdao Regional Contest, Golden Medal 2016
- National Scholarship (top 1%) 2016

## PUBLICATIONS

- Yuming Huang, Jing Tang, **Qianhao Cong**, Richard T.B. Ma, Lei Chen, Yeow Meng Chee. The Last Survivor of PoS Pools: Staker's Dilemma. (Revision) VLDB 2023  
*We study the famous block withholding attack under the proof-of-stake mechanism. We prove that only one of the public pools will survive whereas all the other pools will vanish gradually.*
- Qianhao Cong**, Jing Tang, Yuming Huang, Lei Chen, and Yeow Meng Chee. Cost-Effective Algorithms for Average-Case Interactive Graph Search. doi:10.1109/ICDE53745.2022.00091 ICDE 2022  
*We study the average-case interactive graph search problem. This problem aims to locate a hidden target node on a hierarchy by a series of reachability queries. We propose the greedy algorithms for this problem and prove the greedy algorithms are nearly optimal.*
- Qianhao Cong**, Jing Tang, Kai Han, Yuming Huang, Lei Chen, and Yeow Meng Chee. Noisy Interactive Graph Search. doi:10.1145/3534678.3539267 KDD 2022  
*We study a noisy version of the interactive graph search problem. We propose a node selection based method on the Bayes theorem and prove that this method is nearly optimal.*
- Yuming Huang, Jing Tang, **Qianhao Cong**, Andrew Lim, and Jianliang Xu. Do the Rich Get Richer? Fairness Analysis for Blockchain Incentives. doi:10.1145/3448016.3457285 SIMGOD 2021  
*We study the fairness of blockchain incentive mechanisms, i.e., (i) whether the expected income of a miner is proportional to her initial investment and (ii) whether the return on investment concentrates to its expectation with high probability.*

## SKILLS SUMMARY

- Programming:** C/C++, Python, Rust

## PROFESSIONAL ACTIVITIES

- External Reviewer:** AAAI'22, TKDE'21, ICDCS'20, DASFAA'20