

SHI Rui, Ph.D. Candidate

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🌐 Personal Website

📁 GitHub Repositories

🔍 Google Scholar (citations: 859)

🌐 CityU Homepage

🌐 LinkedIn



Research Interest and Repertoire

- Topics**
- 1. Economics of blockchain and blockchain governance
 - 2. Blockchain-based decentralized market institutions
 - 3. Algorithmic bias and human-algorithm interaction
 - 4. Financial technology and supply chain finance

- Methodologies**
- 1. Analytical modeling
 - 2. Econometrics
 - 3. Design science
 - 4. Experiments and survey

Education

- 2019 – Now
- 📌 **Ph.D. candidate in Information Systems, City University of Hong Kong**
Tentative thesis title: *Incentive Schemes and Strategic Behaviors in Decentralized Two-Sided Market: Towards Better Blockchain Systems.*
Supervisors: Prof. J. Leon Zhao and Prof. Wei Thoo Yue
- 2014 – 2018
- 📌 **B.Mgt. in Information Management and Information Systems, Nanjing University**
Thesis title: *An Optimized Solution to Blockchain-Based Supply Chain Finance.*
Supervisors: Prof. Sanhong Deng and Prof. Jiaqi Yan

Research Publications

Working Papers

- 1 Hui, K.-L., **Shi, R.**, Yue, W. T., & Zhao, J. L. (2024). *Permissioned blockchains, transaction fee, and strategic validators: An economic analysis* (Prepare for submission). (**Alphabetic order**)
- 2 **Shi, R.**, Hui, K.-L., Yue, W. T., & Zhao, J. L. (2024). *Experimenting on transaction fee artifacts in permissioned blockchains for payment networks: Unification of design and social sciences* (Under the 3rd round major revision at *MIS Quarterly*).

Journal Articles

- 1 Leng, J., Jiang, P., Xu, K., Liu, Q., Zhao, J. L., Bian, Y., & **Shi, R.** (2019). Makerchain: A blockchain with chemical signature for self-organizing process in social manufacturing. *Journal of Cleaner Production*, 234, 767–778.
- 2 Leng, J., Yan, D., Liu, Q., Xu, K., Zhao, J. L., **Shi, R.**, ... Chen, X. (2019). Manuchain: Combining permissioned blockchain with a holistic optimization model as bi-level intelligence for smart manufacturing. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 50(1), 182–192.

Conference Papers

- 1 Hui, K.-L., **Shi, R.**, Yue, W. T., & Zhao, J. L. (2021). Permissioned blockchains, transaction fee, and strategic orderers: An economic analysis. In *The workshop on information technologies and systems (WITS2021)*. (**Alphabetic order**)

- 2 Chen, S., Zhang, J., **Shi, R.**, Yan, J., & Ke, Q. (2018). A comparative testing on performance of blockchain and relational database: Foundation for applying smart technology into current business systems. In *International conference on distributed, ambient, and pervasive interactions* (pp. 21–34). Springer. **(Corresponding author)**
- 3 Chen, S., **Shi, R.**, Ren, Z., Yan, J., Shi, Y., & Zhang, J. (2017). A blockchain-based supply chain quality management framework. In *IEEE 14th international conference on e-business engineering (ICEBE)* (pp. 172–176). IEEE.

Patents

- 1 Zhao, J. L., **Shi, R.**, Bian, Y., Leng, J., & Zhu, X. (2020). *A method, system, device, and storage medium for resisting distributed denial of service attacks*. Filing No. 2020111620573. China National Intellectual Property Administration.
- 2 Zhao, J. L., Leng, J., **Shi, R.**, Bian, Y., & Zhu, X. (2020a). *A method, device, computer equipment, and storage medium for smart contract audit awaiting review*. Filing No. 2020109268232. China National Intellectual Property Administration.
- 3 Zhao, J. L., Leng, J., **Shi, R.**, Zhu, X., & Bian, Y. (2020a). *A blockchain consensus method, system, computer device, and storage medium*. Filing No. 2020109728255. China National Intellectual Property Administration.
- 4 Zhao, J. L., Leng, J., **Shi, R.**, Zhu, X., & Bian, Y. (2020b). *A method and device for random private key storage, and a method and device for random private key invocation*. Filing No. 202010902081X. China National Intellectual Property Administration.
- 5 Zhao, J. L., Leng, J., **Shi, R.**, Bian, Y., & Zhu, X. (2020b). *A method for data interaction of middleware in a blockchain application system and a middleware system*. Filing No. 2020108297990. China National Intellectual Property Administration.

Teaching Experience

Semester B, 2020/21

📖 **Python Programming for Business**
Lab Tutorial Instructor, Undergraduate Level
Teaching Rating: 6.00/7.00 (median)
 Students' Comments (Anonymous):

- "The tutor is rather helpful, and willing to answer every question."
- "The teacher tried to explain everything as best as he could no matter how silly the question was. He was very attentive to every student's comments and concerns. He helped a lot in my learning experience. Thank you!"
- "The tutor was patient and imported some knowledge that is out of the course."

Semester B, 2019/20


📖 **Blockchain Technology and Business Applications**
Technical Support, Graduate Level

Services



Ad hoc reviewer

2023 📖 Conference on Information Systems and Technology (CIST)





Services (continued)

- 2022  Pacific Asia Conference on Information Systems (PACIS)
- 2022  International Conference on Information Systems (ICIS)
-  American Conference on Information Systems (AMCIS)
-  Pacific Asia Conference on Information Systems (PACIS)
- 2021  Pacific Asia Conference on Information Systems (PACIS)
-  Workshop on Information Security and Privacy (WISP)
- 2020  Pacific Asia Conference on Information Systems (PACIS)

Conference service


- 2023  **Review Coordinator**, International Conference on Smart Finance (ICSF), Dubai.
- 2019  **Conference Coordinator**, Symposium on Blockchain Technology and Application (SBTA), Hong Kong.

Skills

- Languages  English, Mandarin Chinese, and elementary Cantonese.
- Coding  Golang, JavaScript, Python, SQL, \LaTeX , ...
- Blockchain  Hyperledger, Ethereum, ...
- Web Dev  Node.js and Express, Python Falsk, HTML, CSS, ...

Miscellaneous Experience




Industrial Funding

- 2023  **Person in Charge**, Permissioned blockchain-oriented transaction fee management system, Hong Kong Tech 300 Seed Fund, 200,000 HKD.

Awards and Achievements

- 2021  **First Prize Paper**, China Tourism Science Annual Conference.
- 2018  **Gloabl Best 50 Teams**, *Xunlei* Global Blockchain Application Challenge Competition.
-  **Merit Award**, *Liangubei* Blockchain Application Innovation Competition.
-  **Merit Award**, National College Students Data-Driven Research Innovation Competition.

Research Assistant and Internship

- 2019  **Research Assistant**, CityU Shenzhen Research Institute.
- 2018  **Blockchain Development Intern**, Jiangsu PeerFinTech Ltd.
- 2017  **Research Assistant**, Nanjing University.