

Shan Jiang

Research Assistant Professor

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EDUCATION

The Hong Kong Polytechnic University

Ph.D. in Computer Science

Thesis: High-performance Packing and Searching for Blockchain-based Big Data Sharing

Supervisor: Prof. Jiannong Cao

Hong Kong SAR

Jul 2016 –Jun 2021

Imperial College London

Visiting Student in Department of Computing

Advisor: Prof. Julie A. McCann

London, UK

Nov 2018 –Mar 2019

Sun Yat-sen University

B.Sc. in Computer Science and Technology

Guangzhou, China

Sep 2011 –Jun 2015

PROFESSIONAL EXPERIENCES

Research Assistant Professor

Department of Computing, The Hong Kong Polytechnic University

Oct 2021 –Present

Postdoctoral Fellow

Department of Computing, The Hong Kong Polytechnic University

Advisor: Prof. Jiannong Cao

Jul 2021 –Oct 2021

Research Assistant

Department of Computing, The Hong Kong Polytechnic University

Advisor: Prof. Jiannong Cao

Apr 2015 –Jun 2016

RESEARCH INTERESTS

- Distributed Systems and Blockchain
- Blockchain-based Big Data Sharing
- Blockchain as a Service
- Edge Computing and Mobile Blockchain

PUBLICATIONS

* means corresponding author

1. **Shan Jiang**, Jiannong Cao, Hanqing Wu
Dynamic Ring Signature: Achieving Provable Anonymity in Blockchain-based E-voting
Under *Major Revision* in *ACM Transactions on Software Engineering and Methodology*
2. Hanqing Wu, **Shan Jiang***, Jiannong Cao
High-efficiency Blockchain-based Supply Chain Traceability
Under *Major Revision* in *IEEE Transactions on Intelligent Transportation Systems*
3. **Shan Jiang**, Jiannong Cao, Hanqing Wu, Yanni Yang
Fairness-based Packing of Industrial IoT Data in Permissioned Blockchains
In *IEEE Transactions on Industrial Informatics 2020*, doi:10.1109/TII.2020.3046129

4. **Shan Jiang**, Jiannong Cao, Juncen Zhu, Yinfeng Cao
PolyChain: a Generic Blockchain as a Service Platform
To appear in *BlockSys 2021* (**Oral Presentation and Best Paper Award**)
5. **Shan Jiang**, Junbin Liang, Jiannong Cao, Jia Wang, Jinlin Chen, and Zhixuan Liang
Decentralized Algorithm for Repeating Pattern Formation by Multiple Robots
In *IEEE ICPADS 2019* (**Oral Presentation**), doi:10.1109/ICPADS47876.2019.00090
6. **Shan Jiang**, Jiannong Cao, Julie A. McCann, Yanni Yang, Yang Liu, Xiaoqing Wang, Yuming Deng
Privacy-preserving and Efficient Multi-keyword Search Over Encrypted Data on Blockchain
In *IEEE Blockchain 2019* (**Oral Presentation**), doi:10.1109/Blockchain.2019.00062
7. **Shan Jiang**, Jiannong Cao, Hanqing Wu, Yanni Yang, Mingyu Ma, Jianfei He
BlocHIE: a BLOCKchain-based platform for Healthcare Information Exchange
In *IEEE SMARTCOMP 2018* (**Citations: 166**), doi:10.1109/SMARTCOMP.2018.00073
8. **Shan Jiang**, Jiannong Cao, Jia Wang, Milos Stojmenovic, Julien Bourgeois
Uniform Circle Formation by Asynchronous Robots: A Fully-Distributed Approach
In *IEEE ICCCN 2017* (**Oral Presentation**), doi:10.1109/ICCCN.2017.8038468
9. **Shan Jiang**, Jiannong Cao, Yang Liu, Jinlin Chen, Xuefeng Liu
Programming Large-Scale Multi-Robot System with Timing Constraints
In *IEEE ICCCN 2016* (**Oral Presentation**), doi:10.1109/ICCCN.2016.7568563
10. **Shan Jiang**, Junbin Liang, Jiannong Cao, Rui Liu
An ensemble-level programming model with real-time support for multi-robot systems
In *IEEE PerCom Workshops 2016* (Demo), doi:10.1109/PERCOMW.2016.7457070
11. Xiulong Liu, Jiuwu Zhang, **Shan Jiang**, Yanni Yang, Keqiu Li, Jiannong Cao, Jiangchuan Liu
Accurate Localization of Tagged Objects Using Mobile RFID-augmented Robots
In *IEEE Transactions on Mobile Computing 2019* (**ESI Highly Cited Paper**), doi:10.1109/TMC.2019.2962129
12. Yuvraj Sahni, Jiannong Cao, **Shan Jiang**
Middleware for Multi-Robot System
Mission-Oriented Sensor Networks and Systems: Art and Science, Springer, doi:10.1007/978-3-319-92384-0_18
13. Hanqing Wu, Jiannong Cao, Yanni Yang, Cheung Leong Tung, **Shan Jiang**, Bin Tang, Yang Liu, Xiaoqing Wang, Yuming Deng
Data Management in Supply Chain Using Blockchain: Challenges and a Case Study
In *IEEE ICCCN 2019*, doi:10.1109/ICCCN.2019.8846964
14. Jia Wang, Jiannong Cao, Milos Stojmenovic, Miao Zhao, Jinlin Chen, **Shan Jiang**
Pattern-RL: Multi-robot Cooperative Pattern Formation via Deep Reinforcement Learning
In *IEEE ICMLA 2019*, doi:10.1109/ICMLA.2019.00040
15. Xiulong Liu, Jiannong Cao, Yanni Yang, **Shan Jiang**
CPS-Based Smart Warehouse for Industry 4.0: A Survey of the Underlying Technologies
Computers, 2018, doi:10.3390/computers7010013
16. Hanqing Wu, Jiannong Cao, **Shan Jiang**, Ruosong Yang, Yanni Yang, Jianfei He
TSAR: a fully-distributed Trustless data ShARing platform
In *IEEE SMARTCOMP 2018* (Workshop), doi:10.1109/SMARTCOMP.2018.00028
17. Jia Wang, Jiannong Cao, **Shan Jiang**
Fault-Tolerant Pattern Formation by Multiple Robots: A Learning Approach
In *IEEE SRDS 2017* (PhD Forum), doi:10.1109/SRDS.2017.42

PROFESSIONAL ACTIVITIES

Program committee:

- The 3rd International Conference on Blockchain (Blockchain 2020)

Referee for submissions to journals:

- ACM Computing Surveys
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Services Computing
- IEEE Network
- IEEE Transactions on Cloud Computing
- IEEE Transactions on Big Data
- IEEE Internet of Things Journal
- IEEE Journal of Biomedical and Health Informatics
- Journal of Parallel and Distributed Computing
- Information Processing & Management
- Computers & Security
- Computer Communications
- Journal of Systems Architecture
- Peer-to-Peer Networking and Applications
- Ad Hoc & Sensor Wireless Networks
- IEEE/CAA Journal of Automatica Sinica
- Blockchain: Research and Applications

Reviewer for submissions to conferences:

- ICDCS'20, COMPSAC'20
- ICDCS'19, PerCom'19
- PerCom'18
- MobiQuitous'17, ICDCS'17, ICC'17, PerCom'17

TEACHING EXPERIENCES

- Teaching Assistant (Lecturer: Prof. Jiannong Cao) Spring 2020
Service and Cloud Computing (COMP4442), The Hong Kong Polytechnic University
- Teaching Assistant (Lecturer: Dr. Jing Li and Dr. Jesper Jansson) Fall 2019
Advanced Topics in Computer Algorithms (COMP6701), The Hong Kong Polytechnic University
- Assistant Coach Spring 2018
ACM-ICPC Team of The Hong Kong Polytechnic University
- Teaching Assistant (Lecturer: Prof. Jiannong Cao) Fall 2017
Distributed Computing (COMP5325), The Hong Kong Polytechnic University
- Teaching Assistant (Lecturer: Prof. Jiannong Cao) Spring 2017
Programming Fundamentals (COMP1011), The Hong Kong Polytechnic University
- Teaching Assistant (Lecturer: Dr. Lei Yang) Fall 2016
Computer Communications Networks (COMP312), The Hong Kong Polytechnic University
- Teaching Assistant Fall 2014
Algorithm Design and Analysis, Sun Yat-sen University

HONORS & AWARDS

- ESI Highly Cited Paper (Clarivate Web of Science) Sep 2021
Accurate Localization of Tagged Objects Using Mobile RFID-Augmented Robots
- Best Paper Award Aug 2021
2021 International Conference on Blockchain and Trustworthy Systems (BlockSys'2021)
- Third Runner-up (4/32) Jun 2019
ACM-HK Programming Contest 2019
- The Third Place (3/10) Jun 2019
COMP Annual Research Day 2019, The Hong Kong Polytechnic University
- Second Runner-up (3/33) Jun 2017
ACM-HK Programming Contest 2017
- Silver Medal (32/182) Nov 2014
Beijing Regional Contest, The 39th ACM-Asia Programming Contest, Beijing, China
- Second-class Scholarship Nov 2014
Outstanding Student, Sun Yat-sen University
- The Fourth Place (4/147) May 2014
ACM-Guangdong Provincial Programming Contest 2014, Guangzhou, China
- Third-class Scholarship Nov 2012
Outstanding Student, Sun Yat-sen University