

# Shan Jiang

Ph.D. Student

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## EDUCATION

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### The Hong Kong Polytechnic University

Ph.D. in Department of Computing  
Supervisor: Prof. Jiannong Cao

Hong Kong SAR

Jul 2016 –present

### 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

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### Research Assistant

Department of Computing, The Hong Kong Polytechnic University  
Advisor: Prof. Jiannong Cao

Apr 2015 –Jun 2016

## RESEARCH INTERESTS

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- Blockchain
- Multi-robot System
- Cloud and Edge Computing

## PUBLICATIONS

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1. **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
2. **Shan Jiang**, Jiannong Cao, Hanqing Wu, Yanni Yang  
Reliable and Efficient IoT Data Management via Blockchain-based Searchable Encryption  
Manuscript
3. **Shan Jiang**, Juncen Zhu, Jiannong Cao, Hanqing Wu, Houda Ferradi  
Big Data Sharing: A Comprehensive Survey  
Manuscript
4. **Shan Jiang**, Jiannong Cao, Hanqing Wu, Ruosong Yang, Yanni Yang  
Dynamic Ring Signature: Achieving Provable Anonymity in Blockchain-based E-voting  
Manuscript
5. 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, doi:10.1109/TMC.2019.2962129
6. **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*, doi:10.1109/ICPADS47876.2019.00090

7. **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
8. 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
9. 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
10. 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
11. **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: 78**), doi:10.1109/SMARTCOMP.2018.00073
12. 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
13. 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
14. **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
15. 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
16. **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
17. **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

## PROFESSIONAL ACTIVITIES

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### Program committee:

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

### Referee for submissions to journals:

- ACM Computing Surveys
- 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

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

## HONORS & AWARDS

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| • Third Runner-up (4/32)<br>ACM-HK Programming Contest 2019  | Jun 2019 |
| • The Third Place (3/10)<br>COMP Annual Research Day 2019, The Hong Kong Polytechnic University            | Jun 2019 |
| • Second Runner-up (3/33)<br>ACM-HK Programming Contest 2017   | Jun 2017 |
| • Silver Medal (32/182)<br>Beijing Regional Contest, The 39th ACM-Asia Programming Contest, Beijing, China | Nov 2014 |
| • Second-class Scholarship<br>Outstanding Student, Sun Yat-sen University                                  | Nov 2014 |
| • The Fourth Place (4/147)<br>ACM-Guangdong Provincial Programming Contest 2014, Guangzhou, China          | May 2014 |
| • Third-class Scholarship<br>Outstanding Student, Sun Yat-sen University                                   | Nov 2012 |