

Curriculum Vitae

Name: Kai Bu

Email: kaibu@zju.edu.cn

Mobile: +86-18258816862

Website: list.zju.edu.cn/kaibu

Correspondence Address:

College of Computer Science and Technology

Zhejiang University

No. 38 Zheda Road, Hangzhou, China

EMPLOYMENT

- 2013.09 – present Zhejiang University
Assistant Professor. College of Computer Science and Technology
- 2015.07-2015.08 The Hong Kong Polytechnic University
Research Associate. Department of Computing

EDUCATION

- 2009.05 – 2013.06 The Hong Kong Polytechnic University
Ph.D. Department of Computing
- 2006.09 – 2009.04 Nanjing University of Posts and Telecommunications
M.E. School of Computer Science and Technology
- 2002.09 – 2006.06 Nanjing University of Posts and Telecommunications
B.E. School of Computer Science and Technology

HONORS&AWARDS

- 2016 Best Paper Nominees of IEEE ICDCS 2016
- 2012 The Hong Kong Polytechnic University, COMP Annual Research Day 2012
The Honorable Mention Award for The Student Research Competition
- 2011 The Best Paper Award of IEEE/IFIP EUC 2011 (second author)
- 2005 Nanjing University of Posts and Telecommunications
The Best Student Award (Applicable to Top 5%)
- 2005 Nanjing University of Posts and Telecommunications
Second-Class Studentship (Applicable to Top 10%)
- 2004 Nanjing University of Posts and Telecommunications
Third-Class Studentship (Applicable to Top 15%)

TEACHING EXPERIENCE

- | | | |
|-------------|--|------------|
| Fall 2017 | Introduction to Computer Architecture | Instructor |
| Fall 2016 | Introduction to Computer Architecture | Instructor |
| Fall 2016 | Comprehensive Laboratory Practice of
Information Security | Instructor |
| Spring 2016 | Introduction to Computer Architecture | Instructor |
| Fall 2015 | Comprehensive Laboratory Practice of
Information Security | Instructor |
| Summer 2015 | Comprehensive Laboratory Practice of
Information Security | Instructor |
| Spring 2015 | Introduction to Computer Architecture | Instructor |

Summer 2014	Comprehensive Laboratory Practice of Information Security	Co-Instructor
Spring 2014	Introduction to Computer Architecture	Instructor
Fall 2012	COMP207 Discrete Structures and Data Model	Teaching Assistant
Spring 2012	COMP202 Discrete Structures	Teaching Assistant
Fall 2011	COMP210 Discrete Structures	Teaching Assistant
Fall 2010	COMP210 Discrete Structures	Teaching Assistant

RESEARCH INTERESTS

Networking, Security.

PUBLICATIONS

Journal Articles

- [1]. **Kai Bu**, Bin Xiao, and Yi Qian, Editorial: High Performance and Security in Cloud Computing, *Concurrency and Computation: Practice and Experience, Special Issue on High Performance and Security in Cloud Computing*, accepted for publication, June 2017.
- [2]. **Kai Bu**, Minyu Weng, Yi Zheng, Bin Xiao, and Xuan Liu, You Can Clone but You Can't Hide: A Survey of Clone Prevention and Detection for RFID, *IEEE Communications Surveys & Tutorials*, accepted for publication, March 2017.
- [3]. Xitao Wen, **Kai Bu**, Bo Yang, Yan Chen, Li Erran Li, Xiaolin Chen, Jianfeng Yang, and Xue Leng, RuleScope: Inspecting Forwarding Faults for Software-Defined Networking, *IEEE/ACM Transactions on Networking (ToN)*, accepted for publication, March 2017.
- [4]. Tiantian Zhu, Hongyu Gao, Yi Yang, **Kai Bu**, Yan Chen, Doug Downey, Kathy Lee, and Alok Choudhary, Beating the Artificial Chaos: Fighting OSN Spam using Its Own Templates, *IEEE/ACM Transactions on Networking (ToN)*, accepted for publication, April 2016.
- [5]. **Kai Bu**, Mingjie Xu, Xuan Liu, Jiaqing Luo, Shigeng Zhang, and Minyu Weng, Deterministic Detection of Cloning Attacks for Anonymous RFID Systems, *IEEE Transactions on Industrial Informatics (TII)*, accepted for publication, September 2015.
- [6]. **Kai Bu**, Junze Bao, Minyu Weng, Jia Liu, Bin Xiao, Xuan Liu, and Shigeng Zhang, Who Stole My Cheese?: Verifying Intactness of Anonymous RFID Systems, *Ad Hoc Networks*, accepted for publication, June 2015.
- [7]. Xuan Liu, Shigeng Zhang, and **Kai Bu**, A Locality-based Range-Free Localization for Anisotropic Wireless Sensor Networks, *Telecommunication Systems*, March 2015.
- [8]. Xuan Liu, Bin Xiao, Shigeng Zhang, **Kai Bu**, and Alvin Chan, STEP: A Time-Efficient Tag Searching Protocol in Large RFID Systems, *IEEE Transactions on Computers (TC)*, accepted for publication, January 2015.
- [9]. Xuan Liu, Shigeng Zhang, Bin Xiao, and **Kai Bu**, Flexible and Time-Efficient Tag Scanning with Handheld Readers, *IEEE Transactions on Mobile Computing (TMC)*, accepted for publication, December 2014.
- [10]. Xuan Liu, Bin Xiao, Shigeng Zhang, and **Kai Bu**, Unknown Tag Identification in Large RFID Systems: An Efficient and Complete Solution, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, accepted for publication, April 2014.
- [11]. Qingjun Xiao, Bin Xiao, **Kai Bu**, and Jiannong Cao, Iterative Localization of Wireless Sensor Networks: An Accurate and Robust Approach, *IEEE/ACM Transactions on*

- Networking (ToN)*, vol. 22, no. 2, pp. 608-621, 2014.
- [12]. **Kai Bu**, Xuan Liu, and Bin Xiao, Approaching the Time Lower Bound on Cloned-Tag Identification for Large RFID Systems, *Ad Hoc Networks*, vol. 13, Part B, no. 0, pp. 271-281, 2014.
- [13]. Jiaqing Luo, Bin Xiao, **Kai Bu**, and Shijie Zhou, Understanding and Improving Piece-related Algorithms in the BitTorrent Protocol, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 24, no. 12, pp. 2526-2537, 2013.
- [14]. Qingjun Xiao, **Kai Bu**, Bin Xiao, and Limin Sun, Efficient Protocol Design for Dynamic Tag Population Monitoring in Large-Scale RFID Systems, *Concurrency and Computation: Practice and Experience*, vol. 25, no. 14, pp. 2080-2097, 2013..
- [15]. Zhixin Sun, Bingqing Luo, Yadang Chen, and **Kai Bu**, Secure P2P Topology Based on a Multidimensional DHT Space, *SCIENCE CHINA Information Science (Science in China Series F)*, vol. 56, no. 5, pp. 1-14, 2013.
- [16]. **Kai Bu**, Xuan Liu, Jiaqing Luo, Bin Xiao, and Guiyi Wei, Unreconciled Collisions Uncover Cloning Attacks in Anonymous RFID Systems, *IEEE Transactions on Information Forensics and Security (TIFS)*, vol. 8, no. 3, pp. 239-249, 2013.
- [17]. Qingjun Xiao, **Kai Bu**, Zhijun Wang, and Bin Xiao, Robust Localization against Outliers in Wireless Sensor Networks, *ACM Transactions on Sensor Networks (TOSN)*, vol. 9, no. 2, pp. 24:1-24:26, 2013.
- [18]. Zhixin Sun, Bingqing Luo, Yadang Chen, and **Kai Bu**, [in Chinese] Secure P2P Topology based on a Multidimensional DHT Space Mapping, *SCIENTIA SINICA Informationis (Sci. Sin. Inform.)*, vol. 43, no. 3, pp. 343-360, 2013.
- [19]. **Kai Bu**, Bin Xiao, Qingjun Xiao, and Shigang Chen, Efficient Misplaced-Tag Pinpointing in Large RFID Systems, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 23, no. 11, pp. 2094-2106, 2012.
- [20]. **Kai Bu**, Qingjun Xiao, Zhixin Sun, and Bin Xiao, Toward Collinearity-Aware and Conflict-Friendly Localization for Wireless Sensor Networks, *Computer Communications (COMCOM)*, vol. 35, no. 13, pp. 1549-1560, 2012.

Conference Papers

- [21]. Min Huang, **Kai Bu**, Hanlin Wang, and Kaiwen Zhu, Reviving Android Malware with DroidRide: And How Not To, in *Proc. of The Fourth International Workshop on Cyber Security and Privacy (CSP)*, Chengdu, China, October 13-15, 2016.
- [22]. Xitao Wen, Bo Yang, Yan Chen, Li Erran Li, **Kai Bu**, Peng Zheng, Yang Yang, and Chengchen Hu, RuleTris: Minimizing Rule Update Latency for TCAM-based SDN Switches, in *Proc. of The 36th IEEE International Conference on Distributed Computing Systems (ICDCS)*, Nara, Japan, June 27-30, 2016. **Best Paper Nominees**
- [23]. **Kai Bu**, Minyu Weng, Junze Bao, Zhenchao Lin, and Zhikui Xu, Toward Taming Policy Enforcement for SDN in The RIGHT Way: Or Can We?, in *Proc. of The International Workshop of Software-Defined Data Communications and Storage (SDDCS)*, Nara, Japan, June 27, 2016. Co-located with ICDCS 2016.
- [24]. Xuan Liu, Bin Xiao, Shigeng Zhang, and **Kai Bu**, One More Hash is Enough: Efficient Tag Stocktaking in Highly Dynamic RFID Systems, in *Proc. of IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, May 23-27, 2016.

- [25]. **Kai Bu**, Xitao Wen, Bo Yang, Yan Chen, Li Erran Li, Xiaolin Chen, Is Every Flow on The Right Track?: Inspect SDN Forwarding with RuleScope, in *Proc. of the 35th Annual IEEE International Conference on Computer and Communications (INFOCOM)*, San Francisco, CA, USA, April 10-15, 2016.
- [26]. Jiaqing Luo, Shijie Zhou, Hongrong Cheng, Yongjian Liao, and **Kai Bu**, [Poster] A Range-free Localization of Passive RFID Tags Using Mobile Readers, in *Proc. of the 12th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, Dallas, TX, USA, October 19-22, 2015.
- [27]. **Kai Bu**, Gotta Tell You Switches Only Once: Toward Bandwidth-Efficient Flow Setup for SDN, in *Proc. of The International Workshop of Software-Defined Data Communications and Storage (SDDCS)*, Hong Kong, China, April 27, 2015. Co-located with INFOCOM 2015.
- [28]. **Kai Bu**, Jia Liu, Bin Xiao, Xuan Liu, and Shigeng Zhang, Intactness Verification in Anonymous RFID Systems, in *Proc. of the 20th IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Hsinchu, Taiwan, December 16-19, 2014, pp. 134-141.
- [29]. Hongyu Gao, Yi Yang, **Kai Bu**, Yan Chen, Doug Downey, Kathy Lee, and Alok Choudhary, Spam ain't as Diverse as It Seems: Throttling OSN Spam with Templates Underneath, in *Proc. of 2014 Annual Computer Security Applications Conference (ACSAC)*, New Orleans, LA, USA, December 8-12, 2014, pp. 76-85.
- [30]. **Kai Bu**, Mingjie Xu, Xuan Liu, Jiaqing Luo, and Shigeng Zhang, Toward Fast and Deterministic Clone Detection for Large Anonymous RFID Systems, in *Proc. of the 11th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, Philadelphia, PA, USA, October 28-30, 2014, pp. 416-424.
- [31]. Xitao Wen, Chunxiao Diao, Xun Zhao, Yan Chen, Li Erran Li, Bo Yang, and **Kai Bu**, Compiling Minimum Incremental Update for Modular SDN Languages, in *Proc. of ACM SIGCOMM Workshop on Hot Topics in Software Defined Networking (HotSDN)*, Chicago, IL, USA, August 22, 2014, pp. 193-198. (Co-located with SIGCOMM 2014)
- [32]. Xuan Liu, Bin Xiao, **Kai Bu**, and Shigeng Zhang, LOCK: A Fast and Flexible Tag Scanning Mechanism with Handheld Readers, in *Proc. of IEEE/ACM International Symposium on Quality of Service (IWQoS)*, Hong Kong, China, May 26-27, 2014, pp. 360-369.
- [33]. Jia Liu, Bin Xiao, **Kai Bu**, and Lijun Chen, Efficient Distributed Query Processing in Large RFID-enabled Supply Chains, in *Proc. of the 33rd Annual IEEE International Conference on Computer Communications (INFOCOM)*, Toronto, Canada, April 27 – May 2, 2014, pp. 163-171.
- [34]. **Kai Bu**, Xuan Liu, Jiwei Li, and Bin Xiao, Less is More: Efficient RFID-based 3D Localization, in *Proc. of the 10th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, Hangzhou, Zhejiang, China, October 14-16, 2013, pp. 86-94.
- [35]. Jiwei Li, **Kai Bu**, Xuan Liu, and Bin Xiao, ENDA: Embracing Network Inconsistency for Dynamic Application Offloading in Mobile Cloud Computing, in *Proc. of the 2nd Mobile Cloud Computing Workshop (MCC)*, Hong Kong, China, August 12, 2013, pp. 39-44. (Co-located with SIGCOMM 2013)
- [36]. Fei Wang, Bin Xiao, **Kai Bu**, and Jinshu Su, Detect and Identify Blocker Tags in Tree-based RFID Systems, in *Proc. of IEEE International Conference on Communications (ICC)*, Budapest, Hungary, June 9-13, 2013, pp. 2133-2137.
- [37]. Xuan Liu, Shigeng Zhang, **Kai Bu**, and Bin Xiao, Complete and Fast Unknown Tag

Identification in Large RFID Systems, in *Proc. of the 9th IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS)*, Las Vegas, Nevada, USA, October 8-11, 2012, pp. 47-55.

- [38]. **Kai Bu**, Xuan Liu, and Bin Xiao, [Poster/Short Paper] Fast Cloned-Tag Identification Protocols for Large-Scale RFID Systems, in *Proc. of the 20th International Workshop on Quality of Service (IEEE/ACM IWQoS)*, Coimbra, Portugal, June 4-5, 2012.
- [39]. Qingjun Xiao, **Kai Bu**, and Bin Xiao, Efficient Monitoring of Dynamic Tag Populations in RFID Systems, in *Proc. of the 9th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC)*, Melbourne, Australia, October 24-26, 2011, pp. 106-113. **Best Paper Award**
- [40]. **Kai Bu**, Bin Xiao, Qingjun Xiao, and Shigang Chen, Efficient Pinpointing of Misplaced Tags in Large RFID Systems, in *Proc. of the 8th Annual IEEE Communications Society Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON)*, Salt Lake City, Utah, USA, June 27-30, 2011, pp. 287-295.
- [41]. Zhixin Sun, **Kai Bu**, and Ke Ding, A Multidimensional Mapping Mechanism Based Secure Routing Method for DHT, in *Proc. of the 4th International ICST Conference on Scalable Information Systems (INFOSCALE)*, Hong Kong, China, June 10-11, 2009, pp. 192-205.
- [42]. **Kai Bu** and Zhixin Sun, A Method based on AMHI for DDoS Attacks Detection and Defense, in *Proc. of the 9th International Conference for Young Computer Scientists (ICYCS)*, Zhang Jia Jie, Hunan, China, November 18-21, 2008, pp. 1571-1576.

PATENTS

- [1]. Jing Liu, Tingyong Liu, Zhixin Sun, and **Kai Bu**, P2P Streaming Traffic Identification based on Traffic Behavior, China Patent Application Number CN200710145490.4, **Granted** on April 13, 2011.
- [2]. Zhixin Sun, Jing Gong, Jing Liu, Tingyong Liu, and **Kai Bu**, A Novel Defense Method Against DoS and DDoS Attacks, China Patent Application Number CN200710164224.6, **Granted** on December 8, 2010.
- [3]. Zhixin Sun, **Kai Bu**, and Songle Chen, A Host-Assisted Architecture Defense Against Abnormal Traffic, China Patent Application Number CN200810019664.7, **Granted** on August 18, 2010.

INTERNSHIP EXPERIENCE

- 2012.05 – 2013.07 The Hong Kong Polytechnic University, Department of Computing
Part-Time Research Assistant
- 2007.08 – 2008.10 Motorola Mobility, China Software Center
Software Engineer Assistant/Testing Engineer Assistant

EXTRACURRICULAR ACTIVITY

- 2007.06 – 2008.01 Haiwen Education Group
Tutorship for the National Entrance Examination for Postgraduate

COMPUTER CERTIFICATE

- 2005.05 Qualification Certificate of Computer and Software Technology Proficiency

PROFESSIONAL SERVICES

Guest Editor

CCPE 2016 Concurrency and Computation Practice and Experience
Special Issue on High Performance and Security in Cloud Computing

TPC Member

HPCC 2016 The 18th IEEE International Conference on High Performance Computing and
Communications

CoNEXT-W The ACM CoNEXT 2016 Student Workshop

SSCC 2016 Fourth International Symposium on Security in Computing and
Communications

SPIN 2016 3rd International Conference on Signal Processing and Integrated Networks

HPCC 2015 17th IEEE International Conference on High Performance and Communications

ICCC 2015 IEEE/CIC International Conference on Communications in China
Privacy and Security in Communications (PSC) Symposium

CNS 2015 IEEE Conference on Communications and Network Security

SSCC 2015 Third International Symposium on Security in Computing and Communications

SPIN 2015 2nd International Conference on Signal Processing and Integrated Networks

CNS 2014 IEEE Conference on Communications and Network Security

ACMSE 2014 The 52nd Annual ACM Southeast Conference

ICCC 2014 The third IEEE/CIC International Conference on Communications in China
Privacy and Security in Communications (PSC) Symposium

SSCC 2014 Second International Symposium on Security in Computing and
Communications

ETWMC 2014 The First International Workshop on Emerging Topics in Wireless and Mobile
Computing

ICCN 2014 International Conference of Communications and Networks

SSCC 2013 International Symposium on Security in Computing and Communications

WICCN 2013 2013 Winter International Conference of Communications and Networks

Journal Reviewer

TON IEEE/ACM Transactions on Networking

TIFS IEEE Transactions on Information Forensics and Security

TCOM IEEE Transactions on Communications

JSAC IEEE Journal on Selected Areas in Communications

TII IEEE Transactions on Industrial Informatics

ISJ IEEE Systems Journal

IoT IEEE Internet of Things Journal

CL IEEE Communications Letters

JNCA Journal of Network and Computer Applications

JPDC Journal of Parallel and Distributed Computing

JCN Journal of Communications and Networks

PMC	Pervasive and Mobile Computing
FGCS	Future Generation Computer Systems
FCS	Frontiers of Computer Science
IJICT	International Journal of Information and Communication Technology
IJDSN	International Journal of Distributed Sensor Networks
WINE	Wireless Networks
SP	Scientific Programming
AJSE	Arabian Journal of Science and Engineering
JUCAS	Journal of University of Chinese Academy of Sciences

Review Apprenticeship

TMC, TPDS, TIFS, COMCOM, Ad Hoc Networks, The Computer Journal, IJSNET, JIPS, PEVA;
INFOCOM 2013, 2011; ICDCS 2012; ICPP 2013; ICC 2013; GLOBECOM 2013, 2011, 2010;
TrustCom 2013, 2012; IC3 2013; ICPADS 2012, 2010; WSNS 2012.