

# Baohua Yang

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## PROFILE

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- 10+ years of R&D experience on distributed system area, as research scientist and architect.
- Strong background with high-performance system and algorithm design in data technologies.
- Highly Acknowledged expert on Blockchain and Cloud in the industry and community.

## EXPERIENCE

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**Principal Architect, Oracle** **2017.8 – Present**  
Lead the Blockchain R&D team to design and implement Oracle's enterprise solutions, and help Oracle towards leadership in Fintech business and market.

**Technical Steering Committee Member, Hyperledger** **2017.8 – 2019.8**  
Lead the technical direction of all Hyperledger projects, and contribute code to projects Fabric and Cello as core designer and developers.

**Research Scientist, IBM** **2013.1 – 2017.8**  
Design and develop system for enterprise solutions, and research on emerging innovative technologies (e.g., Blockchain, Bigdata and Cloud) to resolve critical technical issues.

## EDUCATION

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**Ph.D. of Control Science and Engineering, Tsinghua University** **2007.9– 2013.1**  
Research on key topics with distributed systems and high-performance algorithms.  
*Win the 1<sup>st</sup>-class scholarship and IBM Ph.D. Fellowship Award (9 winners in China) in 09 and 11.*

**Visiting Scholar, EECS, University of California, Berkeley** **2010.9– 2011.9**  
Research the advanced distributed system topics (SDN, Security and BigData) in the AMP Lab.

**Bachelor of Science and Engineering, Tsinghua University** **2003.8 – 2007.7**  
*Win the university 1<sup>st</sup>-class scholarship in 2006.*

## SELECTED PUBLICATIONS

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### Papers

- *LazyCtrl: A Scalable Hybrid Network Control Plane Design for Cloud Data Centers*, Kai Zheng, Lin Wang, Baohua Yang, Yi Sun, and Steve Uhlig, IEEE Trans. Parallel Distrib. Syst., vol. 28, no. 1, pp. 115–127, 2017.
- *BitCuts: Towards Fast Packet Classification for Order-independent Rules*. Zhi Liu, Xiang Wang, Baohua Yang and Jun Li, ACM Special Interest Group on Data Communication (ACM SIGCOMM) poster, London, UK, August 2015.
- *LazyCtrl: Scalable Network Control for Cloud Data Centers*. Kai Zheng, Lin Wang, Baohua Yang, Yi Sun, Yue Zhang and Steve Uhlig, 35th International Conference on Distributed Computing Systems (ICDCS) poster, Columbia, Ohio, June 2015.
- *Algorithms to speedup pattern matching for network intrusion detection systems*, Kai Zheng, Zhiping Cai, Xin Zhang, Zhijun Wang, Baohua Yang, Comput. Commun., vol. 62, pp. 47–58, 2015.

- *Tualatin: Towards network security service provision in cloud datacenters*, Xiang Wang, Zhi Liu, Jun Li, Baohua Yang, and Yaxuan Qi, International Conference on Computer Communications and Networks (ICCCN), 2014.
- *Keep Forwarding: Towards K-link Failure Resilient Routing*. Baohua Yang, Junda Liu, Scott Shenker, Jun Li and Kai Zheng, 33rd IEEE International Conference on Computer Communications (INFOCOM 2014), Toronto, Canada, April 2014.
- *Practical Multi-tuple Packet Classification using Dynamic Discrete Bit Selection*. Baohua Yang, Jeffrey Fong, Weirong Jiang, Yibo Xue and Jun Li, IEEE Transactions on Computers, pp 424-434, Vol. 63, No. 2, Feb 2014.
- *Data-Driven Network Connectivity*. Junda Liu, Baohua Yang, Scott Shenker and Michael Schapira, 10th ACM Workshop on Hot Topics in Networks (HotNets-X), Cambridge, MA, November 2011.
- *SMILER: Towards Practical Online Traffic Classification*. Baohua Yang, Guangdong Hou, Lingyun Ruan, Yibo Xue and Jun Li, 7th ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS 2011), Brooklyn, NY, October 2011.
- *Scalable NIDS via Negative Pattern Matching and Exclusive Matching*. Kai Zheng, Xin Zhang, Zhiping Cai, Zhijun Wang and Baohua Yang, 29th IEEE International Conference on Computer Communications (INFOCOM 2010), San Diego, CA, USA, March 2010.
- *Packet classification algorithms: From theory to practice*, Yaxuan Qi, L. Xu, Baohua Yang, Yibo Xue, and Jun Li, in Proceedings - IEEE INFOCOM, 2009, pp. 648–656.
- *DBS: A bit-level heuristic packet classification algorithm for high speed network*, Baohua Yang, X. Wang, Yibo Xue, and Jun Li, in Proceedings of the International Conference on Parallel and Distributed Systems (ICPADS 2009), 2009, pp. 260–267.
- *Towards effective network algorithms on multi-core network processor*, Yaxuan Qi, Z. Zhou, Baohua Yang, Fei He, Yibo Xue, and Jun Li, “s,” in Proceedings of the 4th ACM/IEEE Symposium on Architectures for Networking and Communications Systems, ANCS '08, 2008, pp. 125–126.
- *Towards high-performance flow-level packet processing on multi-core network processors*, Yaxuan Qi, Bo Xu, Fei He, Baohua Yang, Jianming Yu, and Jun Li, in ANCS'07 - Proceedings of the 2007 ACM Symposium on Architecture for Networking and Communications, 2007, pp. 17–26.

### Books

- *Blockchain: Principal, Design and Applications*, China Machine Press, Sep 2017. (best-book award).
- *Docker Container Technology in Action*, China Machine Press, Jan 2015

### PATENTS

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- Methods and System of ID Generation for Transaction Based System, Baohua Yang, 2020
- Methods and System of Tracking Ledger transactions, Baohua Yang, 2019
- Methods and System of Providing Ledger service, Baohua Yang, 2019
- DAG based Methods and Systems of Transaction Processing in A Distributed Ledger, Baohua Yang, 2018
- [Self-adaptive building container images](#), Baohua Yang, Lin Yang, Tiancheng Liu, Jingmin Xu, Pengfei Chen, 2016 (published)
- [Managing task in mobile device](#), Chao Xue, Yue Zhang, Yu Wang, Baohua Yang, Junchi Yan, Fan Yang, 2014 (active)
- [Data packet processing in SDN](#), Tian Cheng Liu, Baohua Yang, Yue Zhang, Kai Zheng, 2014 (active)
- [Techniques for realizing service chaining](#), Baohua Yang, Kai Zheng, Yue Zhang, Tiancheng Liu, 2014 (active)
- [Processing resource access request in network](#), Baohua Yang, Yue Zhang, Kai Zheng, Tiancheng Liu, 2014 (active)
- [Data Packet Processing](#), Yue Zhang, Kai Zheng, Tiancheng Liu, Hang Liu, Baohua Yang, 2013 (active)