

Zhi Wang

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Affiliation **Associate Professor**, Tsinghua Shenzhen International Graduate School, Tsinghua University.

Director, TSIGS – Shine Works Inflexion Lab (Joint Innovation Lab)

Education Background **Ph.D.**, Computer Science and Technology, Tsinghua University, 2008.9–2014.1

B.E., Computer Science and Technology, Tsinghua University, 2004.9–2008.7

Research My research areas include online social network, cloud/cloudlet computing and large-scale multimedia systems, where I use the tools including measurement, implementation and modeling, to shed insights on their system performance, user behavior and optimization space. My current research aims at smart multimedia content processing and delivery, which can be summarized as a “4C + I” paradigm, i.e., using *Intelligence* learnt from *Content* (e.g., multimedia data), *Crowd* (e.g., social-networked people), *Context* (e.g., how people use data), and *Cloud* (e.g., for processing and delivery), to provision optimized and personalized multimedia services to people with satisfactory quality-of-experience.

Best Paper Awards **Outstanding Doctoral Dissertation Award**, China Computer Federation (**Rank 3 among 10 winners, out of 37 nominees in China**) 2014

Best Paper Award, ACM Multimedia 2012 (**only 1 paper receives this award among 4 candidates**) 2012

Best Student Paper Award, MMM 2015 2015

Best Paper Finalist, IEEE/ACM IWQoS 2016 2016

Selected Honors **Shenzhen Youth Science and Technology Award**, 2019

National Natural Science Award (Second Class) , 2018

Natural Science Award of Ministry of Education (First Prize), 2017

Outstanding Graduate Award of Beijing, Tsinghua University (**only 36 winners**) 2014

National Scholarship, Tsinghua University (**only 4 graduate winners, top 2%**) 2012

Zhong Shi-Mo Outstanding Graduate Student Scholarship, Tsinghua University (**2nd place among the 106 scholarship winners, top 1.8%**) 2012

Schlumberger Outstanding Graduate Student Scholarship, Tsinghua University 2011

Tsinghua-Nokia Siemens Networking Scholarship, Tsinghua University 2011

Research Experience

- Associate professor**, Tsinghua University, 2018.12—present
• Tsinghua Shenzhen International Graduate School
- Assistant professor**, Tsinghua University, 2014.2—2018.12
• Tsinghua Shenzhen International Graduate School
- PhD student**, Tsinghua University, 2008.9—2014.1
• Advisor: Prof. Shiqiang Yang
• Co-Advisor: Prof. Wenwu Zhu
• Lab of Multimedia and Networking
- Research assistant**, University of Toronto, 2012.2—2012.8
• Advisor: Prof. Baochun Li
• iQua Group
- Research assistant**, The University of Hong Kong, 2010.1—2010.7
• Advisor: Prof. Chuan Wu
• Networking Research Group

Publications

Books and chapters

1. **Zhi Wang**, Wenwu Zhu and Shiqiang Yang. “Online Social Media Content Delivery: A Data-driven Approach,” In SpringerBriefs in Computer Science, Springer, ISBN 978-981-10-2773-4, 2018.
2. **Zhi Wang**, Jiangchuan Liu, Wenwu Zhu. “Social Video Content Delivery,” SpringerBriefs in Electrical and Computer Engineering, 2016.
3. **Zhi Wang**, Wenwu Zhu, Peng Cui, Lifeng Sun, Shiqiang Yang. “Social Media Recommendation,” Book Chapter in **Social Media Retrieval**, Naeem Ramzan, Roelof van Zwol, Jong-Seok Lee, Kai Cluver, and Xian-Sheng Hua, Editors, pp. 23–43, Springer-Verlag, ISBN 978-1-4471-4554-7, 2013.

Editorials

1. Wenwu Zhu, Jean Walrand, Yike Guo, **Zhi Wang**, “Data-driven Intelligence for Wireless Networking,” ACM TIST Special Issue on Data-driven Intelligence for Wireless Networking, vol. 7, September 2017.
2. Wenwu Zhu, Yonggang Wen, **Zhi Wang**, “Special Section on Networking and Distributed Computing for Big Data,” Special Section on Networking and Distributed Computing for Big Data, Journal of Computer Science and Technology (JCST), vol. 6, November 2015.

Magazine articles

1. Lifeng Sun, Ming Ma, Wen Hu, Haitian Pang and **Zhi Wang**. “Beyond 1 Million Nodes—Crowdsourced Video CDN: Architecture, Technology, and Economy,” IEEE MultiMedia.

2. Lei Zhang, Liting Zhao, **Zhi Wang**, Jiangchuan Liu, “WiFi Networks in Metropolises: From Access Point and User Perspectives,” *IEEE Communications Magazine*, vol. 55, no. 5, pp. 42–48, May 2017.
3. **Zhi Wang**, Jiangchuan Liu, Wenwu Zhu, “Social Video Delivery: Challenges, Approaches and Directions,” *IEEE Network Magazine*, vol. 30, no. 5, pp. 35–39, September 2016.
4. Wenwu Zhu, Peng Cui, **Zhi Wang**, Gang Hua. “Multimedia Big Data Computing,” *IEEE MultiMedia*, vol. 22, no. 3, pp. 96–c3, July 2015.

Journal articles

1. Jingyan Jiang, Liang Hu, Chenghao Hu, Jiatae Liu and Zhi Wang. “BA-Combo: Bandwidth-Aware Decentralized Federated Learning,” In *MDPI Electronics*, vol. 9, no. 3, pp. 440:1-15, March 2020.
2. Cheng Zhan, Han Hu, **Zhi Wang**, Rongfei Fan and Dusit Niyato. “Unmanned Aircraft System Aided Adaptive Video Streaming: A Joint Optimization Approach,” In *IEEE Transactions on Multimedia*, vol. 22, no. 3, pp. 795-807, March 2020. (**JCR-Q1**)
3. Haitian Pang, **Zhi Wang**, Chen Yan, Qinghua Ding, Kun Yi, Jiangchuan Liu, Lifeng Sun. “Content Harvest Network: Optimizing First Mile for Crowdsourced Live Streaming,” In *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 29, no. 7, pp. 2112-2125, July 2019. (**JCR-Q1**)
4. Ming Ma, Lei Zhang, Jiangchuan Liu, **Zhi Wang**, Haitian Pang, Lifeng Sun, Weihua Li, Guangling Hou and Chu Xu. “Characterizing User Behaviors in Mobile Livecast: Towards an Edge Computing-assisted Paradigm,” In *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*, vol. 14, no. 3s, pp. 66:1–66:24, August 2018.
5. Wen Hu, Yichao Jin, Yonggang Wen, **Zhi Wang** and Lifeng Sun. “Towards Wi-Fi AP-Assisted Content Prefetching for On-Demand TV Series: A Learning-based Approach,” *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, vol. 28, no. 7, pp. 1665–1676, July 2018. (**JCR-Q1**)
6. Shan Huang, **Zhi Wang**, Yong Jiang. “Guess Your Size: a Hybrid Model for Footwear Size Recommendation,” In *Advanced Engineering Informatics (ADVEI)*, vol. 36, pp. 64-75, April 2018. (**JCR-Q1**)
7. Mohammad H. Hajiesmaili, Lok To Mak, **Zhi Wang**, Chuan Wu, Minghua Chen. “Cost-Effective Low-Delay Cloud Video Conferencing,” In *IEEE Transactions on Multimedia*, vol. 19, no. 12, pp. 2760–2774, December 2017. (**JCR-Q1**)
8. Cong Zhang, Qiyun He, Jiangchuan Liu and **Zhi Wang**. “Exploring Viewer Gazing Patterns for Touch-Based Mobile Gamecasting,” In *IEEE Transactions on Multimedia*, vol. 19, no. 10, pp. 2333–2344, October 2017. (**JCR-Q1**)
9. Ge Ma, **Zhi Wang**, Miao Zhang, Jiahui Ye, Minghua Chen and Wenwu Zhu. “Understanding Performance of Edge Content Caching for Mobile Video Streaming,” In *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35, no. 5, pp. 1076–1089, May 2017. (**CCF-A, JCR-Q1**)
10. **Zhi Wang**, Lifeng Sun, Miao Zhang, Haitian Pang, Erfang Tian, Wenwu Zhu, “Propagation- and Mobility-Aware D2D Social Content Replication,” *IEEE Transactions on Mobile Computing*, vol. 16, no. 4, pp. 1107–1120, April 2017. (**CCF-A, JCR-Q1**)

11. Lifeng Sun, Xiaoyan Wang, **Zhi Wang**, Vicky Zhao, Wenwu Zhu, “Social-Aware Video Recommendation for Online Social Groups,” *IEEE Transactions on Multimedia (TMM)*, vol. 19, no. 3, pp. 609–618, March 2017. (**JCR-Q1**)
12. Xiaoyi Fan, Jiangchuan Liu, **Zhi Wang**, Yong Jiang, Xue Liu, “CrowdNavi: Demystifying Last Mile Navigation with Crowdsourced Driving Information,” *IEEE Transactions on Industrial Informatics*, vol. 13, no. 2, pp. 771–781, October 2016. (**JCR-Q1**)
13. Wen Hu, **Zhi Wang**, Ming Ma, Lifeng Sun, “Edge Video CDN: A Wi-Fi Content Hotspot Solution,” *Journal of Computer and Technology*, vol. 31, no. 6, pp. 1072–1086, November 2016.
14. **Zhi Wang**, Baochun Li, Lifeng Sun, Wenwu Zhu, Shiqiang Yang. “Dispersing Instant Social Video Service Across Multiple Clouds,” *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 27, no. 3, pp. 735–747, March 2016. (**CCF-A, JCR-Q1**)
15. Guanyu Gao, Weiwen Zhang, Yonggang Wen, **Zhi Wang**, Wenwu Zhu. “Towards Cost-Efficient Video Transcoding in Media Cloud: Insights Learned From User Viewing Patterns,” *IEEE Transactions on Multimedia (TMM)*, vol. 17, no. 8, pp. 1286 - 1296, August 2015. (**JCR-Q1**)
16. **Zhi Wang**, Lifeng Sun, Chuan Wu, Wenwu Zhu, Alan Zhuang, Shiqiang Yang. “A Joint Online Transcoding and Delivery Approach for Dynamic Adaptive Streaming,” *IEEE Transactions on Multimedia (TMM)*, vol. 17, no. 6, pp. 867–879, April 2015. (**JCR-Q1**)
17. **Zhi Wang**, Wenwu Zhu, Minghua Chen, Lifeng Sun, Shiqiang Yang. “CPCDN: Content Delivery Powered by Context and User Intelligence,” *IEEE Transactions on Multimedia (TMM)*, vol. 17, no. 1, pp. 92–103, January 2015. (**JCR-Q1**)
18. **Zhi Wang**, Lifeng Sun, Chuan Wu, Shiqiang Yang. “Enhancing Internet-scale Video Service Deployment Using Microblog-based Prediction,” In *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 26, no. 3, pp. 775–785, March 2015. (**CCF-A, JCR-Q1**)
19. Baochun Li, **Zhi Wang**, Jiangchuan Liu, Wenwu Zhu. “Two Decades of Internet Video Streaming: A Retrospective View,” in *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*, Special Issue on the 20th Anniversary of ACM SIGMM Multimedia, vol. 9, no. 1s, pp. 33–52, October 2013.
20. **Zhi Wang**, Wenwu Zhu, Xiangwen Chen, Lifeng Sun, Jiangchuan Liu, Minghua Chen, Peng Cui, Shiqiang Yang. “Propagation-Based Social-Aware Multimedia Content Distribution,” to appear in *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*, vol. 9, no. 1s, pp. 53–72, October 2013.
21. **Zhi Wang**, Lifeng Sun, Wenwu Zhu, Shiqiang Yang, Hongzhi Li, Dapeng Oliver Wu. “Joint Social and Content Recommendation for User Generated Videos in Online Social Network,” *IEEE Transactions on Multimedia (TMM)*, vol. 15, issue 3, pp. 698–709, April 2013. (**JCR-Q1**)
22. **Zhi Wang**, Chuan Wu, Lifeng Sun, Shiqiang Yang. “Peer-Assisted Social Media Streaming With Social Reciprocity,” *IEEE Transactions on Network and Service Management (TNSM)*, vol. 10, issue 1, pp. 84–94, March 2013. (**invited submission**)

23. Wenwu Zhu, Peng Cui, **Zhi Wang**. “Social Media Cloud Computing,” Communications of the CCF, vol. 8, no. 4, pp. 36–40, April 2012. (invited submission)
24. **Zhi Wang**, Chuan Wu, Lifeng Sun, Shiqiang Yang. “Strategies of Collaboration in Multi-Swarm Peer-to-Peer Content Distribution.” Elsevier Journal of Tsinghua Science and Technology, vol. 17, no. 1, pp. 29–39, February 2012. (invited submission)

Conference papers

1. Kun Yi, Yu Guo, **Zhi Wang**, Lifeng Sun and Wenwu Zhu. “Personalized Text Summarization Based on Gaze Patterns,” In Proceedings of IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR), Shenzhen, Guangdong, China August 6-8, 2020
2. Peng Zhang, Yuwei Zhang, Shan Huang and Zhi Wang. “Fine-grained Garment Parsing: a Body Generation Approach,” In Proceedings of IEEE International Conference on Multimedia and Expo (ICME) 2020, London, UK, July 7, 2020
3. Yuwei Zhang, Peng Zhang, Chun Yuan, and **Zhi Wang**. “Texture and Shape biased Two-Stream Networks for Clothing Classification and Attribute Recognition,” In Proceedings of **IEEE CVPR**, Seattle, WA, US June 16-18, 2020 (CCF-A)
4. Cong Zhang, Jiangchuan Liu, **Zhi Wang** and Lifeng Sun. “Look Ahead at the First-mile in Livecast with Crowdsourced Highlight Prediction,” In Proceedings of **IEEE INFOCOM**, Beijing, China, April 27-30, 2020 (CCF-A)
5. Chenglei Wu, Ruixiao Zhang, **Zhi Wang** and Lifeng Sun. “A Spherical Convolution Approach for Learning Long Term Viewport Prediction in 360 Immersive Video,” In Proceedings of **AAAI**, New York, NY, USA, February 7-12, 2020 (CCF-A)
6. Hongshan Li, Yu Guo, **Zhi Wang**, Shutao Xia and Wenwu Zhu. “AdaCompress: Adaptive Compression for Online Computer Vision Services,” In Proceedings of **ACM Multimedia**, Nice, France. October 21–25, 2019 (CCF-A)
7. Shan Huang, **Zhi Wang**, Laizhong Cui, Yong Jiang and Rui Gao. “Fine-grained Fitting Experience Prediction: A 3D-slicing Attention Approach,” In Proceedings of **ACM Multimedia**, Nice, France, October 21–25, 2019 (CCF-A)
8. Chenghao Hu, Jingyan Jiang, **Zhi Wang**. “Decentralized Federated Learning: A Segmented Gossip Approach” In Proceedings of IJCAI Workshop on Federated Machine Learning, Macau, China, August 10–16, 2019 (CCF-A)
9. Zhengyuan Pang, Lifeng Sun, Tianchi Huang, **Zhi Wang** and Shiqiang Yang. “Towards QoS-Aware Cloud Live Transcoding: A Deep Reinforcement Learning Approach,” In Proceedings of IEEE ICME 2019, Shanghai, China, July 8–12, 2019
10. Yuan Meng, Shenglin Zhang, Zijie Ye, Benliang Wang, **Zhi Wang**, Yongqian Sun, Qitong Liu, Shuai Yang and Dan Pei. “Causal Analysis of the Unsatisfying Experience in Realtime Mobile Multiplayer Games in the Wild,” In Proceedings of IEEE ICME 2019, Shanghai, China, July 8–12, 2019

11. Zihan Wang, Yuan Zhuang, **Zhi Wang** and Xin Wu. "Individual Data Plan in Virtual Network Operation: A Proactive Matching Approach," In Proceedings of **IEEE INFOCOM**, Paris, France, April 29–May 2, 2019 (**CCF-A**)
12. Hongshan Li, Chenghao Hu, Jingyan Jiang, **Zhi Wang**, Yonggang Wen and Wenwu Zhu. "JALAD: Joint Accuracy- and Latency-Aware Deep Structure Decoupling for Edge-Cloud Execution" In Proceedings of The 24th International Conference on Parallel and Distributed Systems (IEEE ICPADS), Sentosa, Singapore, December 11, 2018
13. Ge Ma, **Zhi Wang** and Wenwu Zhu. "Wireless Caching in Large-scale Access Points: A Local Distributed Approach," In Proceedings of **ACM Mobicom**, October 29–November 2, 2018, New Delhi, India. (**CCF-A**)
14. Haitian Pang, Cong Zhang, Fangxin Wang, Han Hu, **Zhi Wang**, Jiangchuan Liu and Lifeng Sun. "Optimizing Personalized Interaction Experience in Crowd-Interactive Livecast: A Cloud-Edge Approach," In Proceedings of **ACM Multimedia**, October 22–26, 2018, Seoul, Korea. (**CCF-A**)
15. Jiahui Ye, **Zhi Wang**, and Wenwu Zhu. "From Global to Local: A Context-Embedded LSTM Recurrent Network for Local Content Popularity Prediction." International Conference on Artificial Intelligence: Methodology, Systems, and Applications. Springer, Cham, 2018.
16. Shan Huang, Yanlong Dong, **Zhi Wang**, Yong Jiang, Xu Zhang, Rui Gao. "Data-Driven Shoe Last Generation Based On Preference-Aware GAN," In Proceedings of IEEE International Conference on Multimedia and Expo (ICME) 2018, San Diego, USA July 25, 2018
17. Chou Mo, Guowei Zhu, **Zhi Wang** and Wenwu Zhu. "Understanding Gaming Experience in Mobile Multiplayer Online Battle Arena Games," In Proceedings of ACM SIGMM Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV) 2018, Amsterdam, The Netherlands June 15, 2018
18. Miao Zhang, Shan Huang, **Zhi Wang** and Yong Jiang. "Delay-Aware Upload Balancing Cross APs based on User Relays," In Proceedings of IEEE International Conference on Communications (ICC), Kansas City, MO, USA, May 20-24, 2018
19. Xiuping Han, **Zhi Wang** and Dan Pei. "Preventing Wi-Fi Privacy Leakage: A User Behavioral Similarity Approach," In Proceedings of IEEE International Conference on Communications (ICC), Kansas City, MO, USA, May 20-24, 2018
20. Wei Gong, Si Chen, Jiangchuan Liu and **Zhi Wang**. "MobiRate: Mobility-Aware Rate Adaptation Using PHY Information for Backscatter Networks," In Proceedings of **IEEE INFOCOM**, Honolulu, HI, USA, April 15-19, 2018 (**CCF-A**)
21. Yifei Zhu, Jiangchuan Liu, **Zhi Wang** and Cong Zhang. "When Cloud Meets Uncertain Crowd: An Auction Approach for Crowdsourced Livecast Transcoding," In Proceedings of **ACM Multimedia**, Mountain View, CA USA, October 23-27, 2017 (**CCF-A**)
22. Ge Ma, **Zhi Wang**, Minghua Chen and Wenwu Zhu. "APRank: Joint Mobility and Preference-based Mobile Video Prefetching," In Proceedings of IEEE ICME 2017, Hong Kong, July 10-14, 2017.
23. Zhengyuan Pang, Lifeng Sun, **Zhi Wang** and Shiqiang Yang. "CP-Operated DASH Caching Via Reinforcement Learning," In Proceedings of IEEE ICME 2017, Hong Kong, July 10-14, 2017.

24. Ming Ma, Lei Zhang, Jiangchuan Liu, **Zhi Wang**, Lifeng Sun. "Characterizing User Behaviors in Mobile Personal Livecast," In Proceedings of ACM SIGMM Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV) 2017, Taipei, Taiwan, June 20-23, 2017.
25. Chenglei Wu, Zhihao Tan, **Zhi Wang**, Shiqiang Yang. "A Dataset for Exploring User Behaviors in VR Spherical Video Streaming," In Proceedings of ACM Multimedia Systems (MMSys) 2017, Taipei, Taiwan, June 20-23, 2017.
26. Wen Hu, Jiahui Huang, **Zhi Wang**, Peng Wang, Kun Yi, Yonggang Wen, Lifeng Sun. "MUSA: Wi-Fi AP-Assisted Video Prefetching via Tensor Learning," in Proceedings of IEEE/ACM International Symposium on Quality of Service (IWQoS), Vilanova I La Geltrú, Spain, June 14-16, 2017.
27. Changhua Pei, **Zhi Wang**, Youjian Zhao, Zihan Wang, Yuan Meng, Dan Pei, Yuanquan Peng, Wenliang Tang, Xiaodong Qu. "Why it Takes so Long to Connect to a WiFi Access Point?" in Proceedings of **IEEE INFOCOM**, Atlanta, GA, USA, May 1-4, 2017. (**CCF-A**)
28. Cong Zhang, Qiyun He, Jiangchuan Liu, **Zhi Wang**. "Beyond the Touch: Interaction-Aware Mobile Live Game Streaming with Gazing Pattern Prediction," in Proceedings of **IEEE INFOCOM**, Atlanta, GA, USA, May 1-4, 2017. (**CCF-A**)
29. Ming Ma, **Zhi Wang**, Kun Yi, Jiangchuan Liu and Lifeng Sun. "Joint Request Balancing and Content Aggregation in Crowdsourced CDN," In Proceedings of IEEE ICDCS, Atlanta, GA, USA, June 5-8, 2017.
30. Chenglin Zeng, Laizhong Cui and **Zhi Wang**. "An Exponential Time-Aware Recommendation Model for Mobile Notification Services," In Proceedings of PAKDD 2017, Jeju, South Korea, May 23-26, 2017.
31. Zhengyuan Pang, Lifeng Sun, **Zhi Wang**, Yuan Xie, Shiqiang Yang. "Understanding Performance of Edge Prefetching," in Proceedings of International Conference on MultiMedia Modeling (MMM), Reykjavík, Iceland, January 4-6 2017
32. Zhixiong Niu, **Zhi Wang**, Hong Xu, Chuan Wu, Francis Lau. "More is Better? Measurement of MPTCP based Cellular Bandwidth Aggregation in the Wild," in IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS) 2016, Brasilia, Brazil, October 10-13, 2016
33. Ming Ma, **Zhi Wang**, Ke Su, Lifeng Sun. "Understanding the Power of Smartrouter-based Peer CDN for Video Streaming," in IEEE International Conference on Computer Communication and Networks (ICCCN) 2016, Waikoloa, Hawaii, USA, August 1-4, 2016
34. Yixin Bao, Xiaoke Wang, **Zhi Wang**, Chuan Wu, Francis C.M. Lau. "Online Influence Maximization in Non-Stationary Social Networks," in Proceedings of IEEE/ACM International Symposium on Quality of Service (IWQoS), Beijing, China, June 20-21, 2016
35. Menghan Li, Dan Pei, Xiaoping Zhang, Beichuan Zhang, **Zhi Wang**, Hailiang Xu, Zihan Wang. "M³: Practical and Reliable Multi-Layer Video Multicast over Multi-rate Wi-Fi Network," in Proceedings of IEEE/ACM International Symposium on Quality of Service (IWQoS), Beijing, China, June 20-21, 2016 (**Best Paper Finalist**)
36. Ming Ma, **Zhi Wang**, Ke Su, Lifeng Sun. "Understanding Content Placement Strategies in Smartrouter-based Peer Video CDN," in ACM SIGMM Workshop on Network and Operating Systems Support for Digital Audio and

- Video (NOSSDAV 2016), Klagenfurt am Wörthersee, Austria, May 10-13, 2016
37. Soham Sinha, Di Niu, **Zhi Wang**, Paul Lu. “Mitigating Routing Inefficiencies to Cloud-Storage Providers: A Case Study,” in IEEE Workshop on Dependable Parallel, Distributed and Network-Centric Systems, Chicago, IL, USA, May 23-27, 2016
 38. Xiaoyi Fan, Jiangchuan Liu, **Zhi Wang**, Yong Jiang. “Navigating the Last Mile with Crowdsourced Driving Information,” in Proceedings of IEEE INFOCOM Workshop on Smart Cities and Urban Computing, San Francisco, CA, USA, April 10-15, 2016
 39. Ouldooz Karimi, Jiangchuan Liu, **Zhi Wang**. “Power-Efficient Resource Utilization in Cellular Multimedia Multicast,” in Proceedings of IEEE International Conference on Mobile Ad-hoc and Sensor Networks, Shenzhen, China, December 16-18, 2015
 40. Zhengyuan Pang, Lifeng Sun, **Zhi Wang**, Erfang Tian, Shiqiang Yang. “A Survey of Cloudlet based Mobile Computing,” in Proceedings of IEEE International Conference on Cloud Computing and Big Data, Taipei, November 4th-6th, 2015
 41. Chenglin Zeng, **Zhi Wang**, Jing Zhang, Ringo Lam. “A Data-driven Study on Impact of Context on Mobile Video Recommendation,” in Proceedings of The Joint Conference on Harmonious Human Machine Environment, Huludao, China, September 11-13, 2015
 42. **Zhi Wang**, “Social Media Distribution: A Data-driven Approach,” in Proceedings of ACM International Conference on Internet Multimedia Computing and Service (ICIMCS), Zhangjiajie, China, August 19-21, 2015
 43. Wen Hu, **Zhi Wang**, Lifeng Sun, “Path-Aware Peer-Assisted Web Content Delivery against Network Failures,” in Proceedings of IEEE/ACM International Symposium on Quality of Service (IWQoS), Portland, OR, USA, June 15-16, 2015
 44. Wenming Shi, **Zhi Wang**, Chao Zhou, Lifeng Sun, “Characterizing Viewing Engagement Patterns in DASH,” in Proceedings of IEEE ICME, Torino, Italy, June 29-July 3, 2015
 45. Mohammad Hajiesmaili, Lok To Mak, **Zhi Wang**, Chuan Wu, Minghua Chen, Ahmad Khonsari, “Cost-Effective Low-Delay Cloud Video Conferencing,” in Proceedings of IEEE ICDCS, Columbus, Ohio, USA, June 29 - July 2, 2015
 46. Wen Hu, **Zhi Wang**, Lifeng Sun, “Guyot: a Hybrid Learning- and Model-based RTT Predictive Approach,” in Proceedings of IEEE ICC, London, UK, June 8-12, 2015
 47. Jingpu Duan, **Zhi Wang**, Chuan Wu, “Responsive Multipath TCP in SDN-based Datacenters,” in Proceedings of IEEE ICC, London, UK, June 8-12, 2015
 48. Jincheng Zhang, Wenjie Zhang, Minghua Chen, **Zhi Wang**, “WINET: Indoor White Space Network Design,” in Proceedings of IEEE INFOCOM, Hong Kong, April 26-May 1, 2015. (CCF-A)
 49. Xiahong Lin, **Zhi Wang**, Lifeng Sun, “MAP: Microblogging Assisted Profiling of TV Shows,” in Proceedings of International Conference on Multimedia Modeling (MMM), Sydney, Australia, January 5-7, 2015. (Best Student Paper Award)

50. Guanyu Gao, Weiwen Zhang, Yonggang Wen, **Zhi Wang**, Wenwu Zhu, Yap Peng Tan, "Cost Optimal Video Transcoding in Media Cloud: Insights from User Viewing Pattern," in Proceedings of IEEE ICME, Chengdu, China, July 14-18, 2014.
51. Han Hu, Yonggang Wen, Tat-Seng Chua, **Zhi Wang**, Jian Huang, Wenwu Zhu, Di Wu, "Community Based Effective Social Video Contents Placement in Cloud Centric cdn Network," in Proceedings of IEEE ICME, Chengdu, China, July 14-18, 2014.
52. Shengkai Shi, **Zhi Wang**, Chuan Wu, Xiaojun Lin, "Characterizing Cascade Dynamics in A Microblogging System," in Proceedings of IEEE ICC, Sydney, Australia, June 10-14, 2014.
53. **Zhi Wang**, Lifeng Sun, Chuan Wu, Wenwu Zhu, Shiqiang Yang, "Joint On-line Transcoding and Geo-distributed Delivery for Dynamic Adaptive Streaming," in Proceedings of **IEEE INFOCOM**, Toronto, Canada, April 27-May 2, 2014. (CCF-A)
54. Chong Yuan, **Zhi Wang**, Lifeng Sun, "TV6: A Revisit to System Design, User Socialization and Content Recommendation in Social TV," in Proceedings of International Conferences on Advances in Multimedia (MMEDIA), Venice, Italy, April 21-26, 2013.
55. **Zhi Wang**, Baochun Li, Lifeng Sun, Shiqiang Yang, "Cloud-based Social Application Deployment using Local Processing and Global Distribution," in Proceedings of **ACM CoNEXT**, Nice, France, December 10-13, 2012.
56. **Zhi Wang**, Lifeng Sun, Xiangwen Chen, Wenwu Zhu, Jiangchuan Liu, Minghua Chen, Shiqiang Yang. "Propagation-based Social-aware Replication for Social Video Contents," in Proceedings of **ACM Multimedia** 2012, Nara, Japan, October 29-November 2, 2012. (Best Paper Award, CCF-A)
57. Xiaoyan Wang, Lifeng Sun, **Zhi Wang**, Da Meng. "Group Recommendation Using External Followee for Social TV," in Proceedings of IEEE ICME 2012, Melbourne, Australia, July 9-13, 2012.
58. **Zhi Wang**, Lifeng Sun, Chuan Wu, Shiqiang Yang. "Guiding Internet-scale Video Service Deployment Using Microblog-based Prediction," in Proceedings of **IEEE INFOCOM** 2012 Mini-Conference, Orlando, FL, USA, March 25-30, 2012. (CCF-A)
59. **Zhi Wang**, Lifeng Sun, Shiqiang Yang, Wenwu Zhu. "Prefetching Strategy in Peer-Assisted Social Video Streaming," in Proceedings of **ACM Multimedia** 2011, Scottsdale, AZ, USA, November 28-December 1, 2011. (CCF-A)
60. **Zhi Wang**, Chuan Wu, Lifeng Sun, Shiqiang Yang. "Peer-Assisted Online Games with Social Reciprocity," in Proceedings of **ACM/IEEE IWQoS** 2011, San Jose, CA, USA, June 6-7, 2011.
61. **Zhi Wang**, Chuan Wu, Lifeng Sun, Shiqiang Yang. "Strategies of Collaboration in Multi-channel P2P VoD Streaming," in Proceedings of IEEE GLOBECOM 2010, Miami, FL, USA, December 6-10, 2010.
62. **Zhi Wang**, Lifeng Sun, Shiqiang Yang. "Strategies of Buffering Schedule in P2P VoD Streaming," in Proceedings of the Twelfth International Workshop on Multimedia Signal Processing 2010 (MMSp 2010), Saint-Malo, France, October 4-6, 2010.
63. Peng Cui, Lifeng Sun, **Zhi Wang**, Shiqiang Yang. "A Novel Segment-of-Interest Discovery Method for Surveillance Video," in Proceedings of IEEE ICME 2007, Beijing, China, July 2-5, 2007.

**Professional
Service Activities**

Journal Editorships

- Associate Editor, IEEE Transactions on Multimedia, 2019 – 2021
- Associate Editor, IEEE Open Journal of Communications Society, 2019 – 2020
- Guest Editor, ACM Transactions on Intelligent Systems and Technology (ACM TIST), Special issue on Data-driven Intelligence for Wireless Networking, 2016 – 2017
- Guest Editor, Special Section on Fog Computing, Journal of Computer and Technology (JCST), 2016 – 2017
- Guest Editor, Special Section on Networking and Distributed Computing for Big Data, Journal of Computer and Technology (JCST), 2015 – 2016
- Leading Guest Editor, Special Issue on Computer Network Design for Social Media, China Communications, 2015 – 2016

Conference Chairs

- Track Chair, IEEE PhoneCom 2014, Hong Kong

IG Chairs

- Chair, Multimedia Big Data Interest Group, 2017–2018

Membership in Technical Program Committees

- ACM Multimedia (MM) 2014–2019
- IJCAI 2020
- CIKM 2019
- ICDM 2018-2020
- IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS) 2015-2019
- ICCCRI 2016
- IEEE International Conference on Computer Communications (INFOCOM) 2015
- IEEE Big Data Congress 2015
- IEEE International Conference on Networking, Architecture, and Storage (NAS) 2015, 2014
- ACM Multimedia Systems Conference (MMSys) 2015, 2014
- Pacific-Rim Conference on Multimedia (PCM) 2014
- IEEE International Conference on Cyber, Physical and Social Computing (CPSCom) 2014
- IEEE International Conference on Communications (ICC) 2014
- IEEE International Conference on Multimedia and Expo (ICME) 2013

Reviewer

- Journal: IEEE TMM, IEEE TCSVT, IEEE/ACM ToN, ACM TOMCCAP, IEEE TPDS, IEEE TMC, IEEE JSAC, IEEE ACCESS, Springer ComCom
- Conference: IEEE ICDM 2018, IEEE VCIP 2015/2011, ACM Multimedia 2014-2018, ACM MMSys 2014, NAS 2014, CPSCOM 2014, IEEE INFOCOM 2013, ACM MOBICOM 2013, IEEE IWQoS 2012, IEEE ICNP 2012, IEEE ICME 2012, IEEE GLOBECOM 2012, IEEE GLOBECOM 2011

**Teaching
Experience**

Teaching

Tsinghua University

- 64100033, **Foundations for Big Data Systems**, Fall 2014–2019
- 16-week course on distributed systems and networks for big-data storage, processing and visualization.
- 60250131, **Seminars on Data Science and Applications**, Fall 2015–2019
- 8-week course on frontier seminars of data science.
- 80240683, **Big Data Visualization**, Spring/Fall 2016–2019
- 16-week course on big data visualization technologies.
- 86000152, **Foundations for Big-data Analytics**, Spring/Fall 2015–2018
- 16-week course on introduction to big-data analytical techniques.