

Associate Professor  
Co-Associate Chair for Grad Education  
Department of Computer Science  
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## Research Overview

- **Theme of research:** Integration of systems, algorithms, and applications for effective and efficient data analytics in ubiquitous computing and scientific discovery
- **Areas of research:** Mobile/wearable/IoT computing, social networks, spatial-temporal data, anomaly/misbehavior detection, similarity search, recommender systems, data fusion
- **Application domains:** Environmental science, Earth sciences, renewable and sustainable energy, transportation, materials science, and information needs in people's daily lives

## Education

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|------------------------|------|---|
| Ph.D.                  | 2006 | Computer Science, Princeton University<br>Advisor: Kai Li |
| M.A.                   | 2002 | Computer Science, Princeton University                    |
| B.E.                   | 2000 | Computer Science & Technology<br>Tsinghua University      |
| <i>summa cum laude</i> |      |   |

## Professional Appointments

- **University of Colorado Boulder**, Boulder, CO  
Co-Associate Chair for Graduate Education Jan. 2018 - present  
Co-Graduate Director Jan. 2015 - Dec. 2017  
Associate Professor Aug. 2014 - present  
Assistant Professor Aug. 2008 - Aug. 2014
- **Renewable and Sustainable Energy Institute (RASEI)**, Boulder, CO  
Affiliate 2010 - present
- **Stony Brook University (SUNY)**, Stony Brook, NY  
Assistant Professor Sep. 2007 - Aug. 2008
- **Princeton University**, Princeton, NJ  
Postdoctoral Research Associate Oct. 2006 - Jul. 2007

## Publications

### Journal

1. J. S. Zhang, C. Tan, and Q. Lv. Intergroup contact in the wild: Characterizing language differences between intergroup and single-group members in nba-related discussion forums. *Proc. ACM Hum.-Comput. Interact.*, 3(CSCW), Nov. 2019.

2. K. Niu, F. Zhang, Y. Jiang, J. Xiong, Q. Lv, Y. Zeng, and D. Zhang. Wimorse: A contactless morse code text input system using ambient wifi signals. *IEEE Internet of Things Journal*, 6(6):9993–10008, Dec 2019.
3. S. Zhang, M. Gartrell, R. Han, Q. Lv, and S. Mishra. GEVR: An event venue recommendation system for groups of mobile users. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 2019.
4. J. Wang, Y. Wang, D. Zhang, Q. Lv, and C. Chen. Crowd-powered sensing and actuation in smart cities: Current issues and future directions. *IEEE Wireless Communications*, 2019.
5. J. Wang, F. Wang, Y. Wang, L. Wang, Z. Qiu, D. Zhang, B. Guo, and Q. Lv. Hytasker: Hybrid task allocation in mobile crowd sensing. *IEEE Transactions on Mobile Computing*, pages 1–1, 2019.
6. J. S. Zhang and Q. Lv. Understanding event organization at scale in event-based social networks. *ACM Trans. Intell. Syst. Technol.*, 10(2):16:1–16:23, Jan. 2019.
7. Q. Kong, A. Inbal, R. M. Allen, Q. Lv., and A. Puder. Machine learning aspects of the myshake global smartphone seismic network. *Seismological Research Letters*, Dec. 2018.
8. J. S. Zhang, C. Tan, and Q. Lv. "This is Why We Play": Characterizing online fan communities of the NBA teams. *Proc. ACM Hum.-Comput. Interact.*, 2(CSCW):197:1–197:25, Nov. 2018.
9. Y. Zhao, Q. Liu, D. Li, D. Kang, Q. Lv, and L. Shang. Hierarchical anomaly detection and multimodal classification in large-scale photovoltaic systems. *IEEE Transactions on Sustainable Energy*, page 1, 2018.
10. K. Sadighi, E. Coffey, A. Polidori, B. Feenstra, Q. Lv, D. Henze, and M. Hannigan. Intra-urban spatial variability of surface ozone and carbon dioxide in riverside, ca: viability and validation of low-cost sensors. *Atmospheric Measurement Techniques (AMT)*, 11:1777–1792, Mar. 2018.
11. J. Wang, Y. Wang, D. Zhang, F. Wang, H. Xiong, C. Chen, Q. Lv, and Z. Qiu. Multi-task allocation in mobile crowd sensing with individual task quality assurance. *IEEE Transactions on Mobile Computing*, 17(9):2101–2113, Sept 2018.
12. Z. Yu, F. Yi, Q. Lv, and B. Guo. Identifying on-site users for social events: Mobility, content, and social relationship. *IEEE Transactions on Mobile Computing*, 17(9):2055–2068, Sept 2018.
13. S. Zhang and Q. Lv. Hybrid EGU-based group event participation prediction in event-based social networks. *Knowledge-Based Systems*, 143:19–29, Mar. 2018.
14. S. Zhang, K. Alanezi, M. Gartrell, R. Han, Q. Lv, and S. Mishra. Understanding group event scheduling via the outwithfriendz mobile application. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 1(4):175:1–175:19, Jan. 2018.
15. Y. Zhao, D. Li, A. Dong, D. Kang, Q. Lv, and L. Shang. Fault prediction and diagnosis of wind turbine generators using SCADA data. *Energies*, 10(8):1210, 2017.

16. X. Li, D. Zhang, Q. Lv, J. Xiong, S. Li, Y. Zhang, and H. Mei. Indotrack: Device-free indoor human tracking with commodity wi-fi. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.*, 1(3):72:1–72:22, 2017.
17. Q. Liu, R. Klucik, H. Chen, G. Grant, D. Gallaher, Q. Lv, and L. Shang. Unsupervised detection of contextual anomaly in remotely sensed data. *Remote Sensing of Environment (RSE)*, 202:75–87, 2017.
18. D. Li, Q. Lv, L. Shang, and N. Gu. Efficient privacy-preserving content recommendation for online social communities. *Neurocomputing*, 219:440–454, 2017.
19. S. A. Miller, P. Gorai, B. R. Ortiz, A. Goyal, D. Gao, T. O. Mason, G. J. Snyder, Q. Lv, V. Stevanovic, and E. S. Toberer. Capturing anharmonicity in a lattice thermal conductivity model for high-throughput predictions. *Chemistry of Materials (CM)*, 29(6):2494–2501, 2017.
20. Q. Liu, J. Williamson, W. Mohrman, K. Li, Q. Lv, R. Dick, and L. Shang. Gazelle: Energy-efficient wearable analysis for running. *IEEE Transactions on Mobile Computing*, 2016.
21. R. I. Rafiq, H. Hosseinmardi, S. A. Mattson, R. Han, Q. Lv, and S. Mishra. Analysis and detection of labeled cyberbullying instances in Vine, a video-based social network. *Social Network Analysis and Mining*, 6(1):88, Dec 2016.
22. D. Li, Y. Ruan, Q. Lv, and L. Shang. SalesExplorer: Exploring sales opportunities from white-space customers in the enterprise market. *Knowledge-Based Systems*, 113:51–60, 2016.
23. D. Li, C. Chen, Q. Lv, L. Shang, Y. Zhao, T. Lu, and N. Gu. An algorithm for efficient privacy-preserving item-based collaborative filtering. *Future Generation Computer Systems*, 55:311–320, 2016.
24. P. Gorai, D. Gao, B. Ortiz, S. Miller, S. Barnett, T. Mason, Q. Lv, V. Stevanovic, and E. Toberer. TEDesignLab: A virtual laboratory for thermoelectric material design. *Computational Materials Science*, 112(A):368–376, Feb 2016.
25. J. Ahn, J. Williamson, M. Gartrell, R. Han, Q. Lv, and S. Mishra. Supporting healthy grocery shopping via mobile augmented reality. *ACM Transactions on Multimedia Computing Communications and Applications. Special issue on Smartphone-based Interactive Technologies, Systems and Applications*, 12(1), Oct 2015.
26. H. Cheng, X. Xing, X. Liu, and Q. Lv. ISC: an iterative social based classifier for adult account detection on twitter. *Knowledge and Data Engineering, IEEE Transactions on*, 27(4):1045–1056, 2014.
27. D. Li, Q. Lv, L. Shang, and N. Gu. Item-based top-n recommendation resilient to aggregated information revelation. *Knowledge-Based Systems*, 67:290–304, 2014.
28. R. Piedrahita, Y. Xiang, N. Masson, J. Ortega, A. Collier, Y. Jiang, K. Li, R. Dick, Q. Lv, M. Hannigan, and L. Shang. The next generation of low-cost personal air quality sensors for quantitative exposure monitoring. *Atmospheric Measurement Techniques (AMT)*, 7:3325–3336, 2014.
29. Y.-L. Liang, X. Xing, H. Cheng, J. Dang, S. Huang, R. Han, X. Liu, Q. Lv, and S. Mishra. SafeVchat: A system for obscene content detection in online video chat services. *ACM Transactions on Internet Technology (TOIT)*, 12(4):13:1–13:26, Jul. 2013.

30. Y. Jiang, K. Li, R. Piedrahita, Y. Xiang, L. Tian, O. Mansata, Q. Lv, R. P. Dick, M. Hannigan, and L. Shang. User-centric indoor air quality monitoring on mobile devices. *AI Magazine, Association for the Advancement of Artificial Intelligence (AAAI)*, 34(2):11–30, 2013.
31. Y. Jiang, D. Li, and Q. Lv. Thinking fast and slow: An approach to energy-efficient human activity recognition on mobile devices. *AI Magazine, Association for the Advancement of Artificial Intelligence (AAAI)*, 34(2):48–66, 2013.
32. K. Li, C. Zhu, Q. Lv, L. Shang, and R. P. Dick. Personalized multi-modality image management and search for mobile devices. *Personal and Ubiquitous Computing*, pages 1–18, Apr. 2013.
33. J. Wu, J. Wang, K. Li, H. Zhou, Q. Lv, L. Shang, and Y. Sun. Large-scale energy storage system design and optimization for emerging electric-drive vehicles. *Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, 32(3):325–338, Mar. 2013.
34. Y.-L. Liang, W. Colgan, Q. Lv, K. Steffen, W. Abdalati, J. Stroeve, D. Gallaher, and N. Bayou. A decadal investigation of supraglacial lakes in West Greenland using a fully automatic detection and tracking algorithm. *Remote Sensing of Environment*, 123:127–138, Aug. 2012.
35. D. Li, Q. Lv, X. Xie, L. Shang, H. Xia, T. Lu, and N. Gu. Interest-based real-time content recommendation in online social communities. *Knowledge-Based Systems*, 28:1–12, 2012.
36. J. Wu, K. Li, Y. Jiang, Q. Lv, L. Shang, and Y. Sun. Large-scale battery system development and user-specific driving behavior analysis for emerging electric-drive vehicles. *Energies*, 4(5):758–779, 2011.

## Refereed Conference

1. Y. Zhang, Q. Lv, D. Gao, S. Shen, R. Dick, M. Hannigan, and Q. Liu. Multi-group encoder-decoder networks to fuse heterogeneous data for next-day air quality prediction. In *Proceedings of the 28th International Joint Conference on Artificial Intelligence*, pages 4341–4347, 2019.
2. Q. Kong, Q. Lv, and R. M. Allen. Earthquake early warning and beyond: Systems challenges in smartphone-based seismic network. In *Proceedings of The 20th International Workshop on Mobile Computing Systems and Applications (HotMobile)*, Feb. 2019.
3. H. Truong, S. Zhang, U. Muncuk, P. Nguyen, N. Bui, A. Nguyen, Q. Lv, K. Chowdhury, T. Dinh, and T. Vu. Capband: Battery-free successive capacitance sensing wristband for hand gesture recognition. In *Proc. of the 16th ACM Conf. on Embedded Networked Sensor Systems (SenSys)*, pages 54–67, 2018. (**Best Paper Runner-up Award**)
4. J. Lei, C. Wang, B. Zhu, Q. Lv, Z. Huang, and Y. Peng. Multi-LCNN: A hybrid neural network based on integrated time-frequency characteristics for acoustic scene classification. In *Proceedings of the 30th IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, pages 52–59, Nov 2018.
5. S. Li, X. Li, Q. Lv, G. Tian, and D. Zhang. WiFit: Ubiquitous bodyweight exercise monitoring with commodity Wi-Fi devices. In *Proceedings of the 15th IEEE International Conference on Ubiquitous Intelligence Computing (UIC)*, pages 530–537, Oct 2018.

6. Y. Zhao, D. Li, Q. Liu, Q. Lv, and L. Shang. Deriving customer privacy from randomly perturbed smart metering data. In *2018 IEEE 16th International Conference on Industrial Informatics (INDIN)*, pages 959–965, July 2018.
7. D. Li, Y. Zhao, Y. Zhang, Q. Lv, and L. Shang. An algorithmic method for tampering-proof and privacy-preserving smart metering. In *2018 IEEE 16th International Conference on Industrial Informatics (INDIN)*, pages 459–465, July 2018.
8. D. Li, C. Chen, Q. Lv, H. Gu, T. Lu, L. Shang, N. Gu, and S. Chu. AdaError: An adaptive learning rate method for matrix approximation-based collaborative filtering. In *Proceedings of the 2018 World Wide Web Conference (WWW)*, pages 741–751, Apr. 2018.
9. R. Rafiq, H. Hosseinmardi, R. Han, Q. Lv, and S. Mishra. Scalable and timely detection of cyberbullying in online social networks. In *SAC 2018: Proceedings of the 33rd ACM/SIGAPP Symposium On Applied Computing*, 2018.
10. L. Tan, C. Wang, Q. Lv, Y. Peng, M. Hu, X. Zhao, and Z. Huang. SDF-NN: A deep neural network with semantic dropping and fusion for natural language inference. In *2017 IEEE 29th International Conference on Tools with Artificial Intelligence (ICTAI)*, pages 72–79, Nov 2017. (**Best Student Paper Award**)
11. C. Chen, D. Li, Q. Lv, J. Yan, L. Shang, and S. M. Chu. Gloma: Embedding global information in local matrix approximation models for collaborative filtering. In *AAAI 2017: Proceedings of the 31st AAAI Conference on Artificial Intelligence*, pages 1295–1301, Feb 2017.
12. D. Li, C. Chen, Q. Lv, L. Shang, S. M. Chu, and H. Zha. Ermma: Expected risk minimization for matrix approximation-based recommender systems. In *AAAI 2017: Proceedings of the 31st AAAI Conference on Artificial Intelligence*, pages 1403–1409, Feb 2017.
13. H. Hosseinmardi, R. I. Rafiq, R. Han, Q. Lv, and S. Mishra. Prediction of cyberbullying incidents in a media-based social network. In *2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, pages 186–192, Aug 2016.
14. C. Chen, D. Li, Q. Lv, J. Yan, S. M. Chu, and L. Shang. Mpma: Mixture probabilistic matrix approximation for collaborative filtering. In *IJCAI 2016: Proceedings of the 25th International Joint Conference on Artificial Intelligence*, pages 1382–1388, Jul 2016.
15. D. Li, C. Chen, Q. Lv, J. Yan, L. Shang, and S. Chu. Low-rank matrix approximation with stability. In *ICML 2016: Proceedings of the 33rd International Conference on Machine Learning*, Jun 2016.
16. H. Hosseinmardi, R. I. Rafiq, S. A. Mattson, R. Han, Q. Lv, and S. Mishra. Analyzing factors impacting reviving on the Vine social network. In *SocInfo 2015: Proceedings of the 7th International Conference on Social Informatics*, pages 17–32, 2015.
17. H. Hosseinmardi, S. A. Mattson, R. I. Rafiq, R. Han, Q. Lv, and S. Mishra. Analyzing labeled cyberbullying incidents on the Instagram social network. In *SocInfo 2015: Proceedings of the 7th International Conference on Social Informatics*, pages 49–66, 2015.
18. R. Rafiq, H. Hosseinmardi, S. Mattson, R. Han, Q. Lv, and S. Mishra. Careful what you share in six seconds: Detecting cyberbullying instances in Vine. In *Proceedings of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, pages 617–622, 2015.

19. C. Chen, D. Li, Y. Zhao, Q. Lv, and L. Shang. WEMAREC: Accurate and scalable recommendation through weighted and ensemble matrix approximation. In *Proceedings of The 38th Annual ACM SIGIR Conference (SIGIR)*, pages 303–312, 2015.
20. H. Hosseinmardi, R. I. Rafiq, S. Li, Z. Yang, R. Han, S. Mishra, and Q. Lv. Comparison of common users across instagram and ask.fm to better understand cyberbullying. In *The 7th IEEE international Conference on Social Computing and Networking (SocialCom)*, 2014.
21. L. Tian, R. Rafiq, S. Li, D. Chu, R. Han, Q. Lv, and S. Mishra. Multi-modal fusion for flasher detection in a mobile video chat application. In *Proceedings of the 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services, MOBIQUITOUS '14*, pages 267–276, 2014. (**Best Paper Award Nomination**)
22. H. Hosseinmardi, A. Ghasemianlangroodi, R. Han, Q. Lv, and S. Mishra. Analyzing negative user behavior in a semi-anonymous social network. In *The 2014 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)*, pages 244–252, 2014.
23. H. Gu, M. Gartrell, L. Zhang, Q. Lv, and D. Grunwald. AnchorMF: Towards effective event context identification. In *Proceedings of the 22Nd ACM International Conference on Conference on Information & Knowledge Management, CIKM '13*, pages 629–638, 2013.
24. D. Li, F. Lu, Q. Lv, and L. Shang. Lifetime cost optimized wind power control using hybrid energy storage system. In *NAPS 2013: Proceedings of the 45th North American Power Symposium*, Sep. 2013. 6 pages.
25. Y. Jiang, Y. Xiang, X. Pan, K. Li, Q. Lv, R. Dick, L. Shang, and M. Hannigan. Hallway based Automatic Indoor Floorplan Construction using Room Fingerprints. In *Proceedings of the 15th intl. conference on Ubiquitous computing, UbiComp '13*, 2013.
26. L. Tian, S. Li, J. Ahn, D. Chu, R. Han, Q. Lv, and S. Mishra. Understanding user behavior at scale in a mobile video chat application. In *Proceedings of the 15th intl. conference on Ubiquitous computing, UbiComp '13*, pages 647–656, 2013.
27. Y. Xiang, R. Piedrahita, R. Dick, M. Hannigan, Q. Lv, and L. Shang. A hybrid sensor system for indoor air quality monitoring. In *DCOSS 2013: Proceedings of the 9th IEEE International Conference on Distributed Computing in Sensor Systems*, pages 96–104, May 2013. Acceptance rate: 30%.
28. H. Gu, H. Hang, Q. Lv, and D. Grunwald. Fusing text and friendships for location inference in online social networks. In *WI 2012: Proceedings of the 2012 IEEE/WIC/ACM International Conference on Web Intelligence*, pages 158–165, Dec. 2012. Acceptance rate: 20%.
29. F. Lu, L. Shang, D. Maksimovic, and Q. Lv. A large-scale study of PHEV charging. In *POWERCON 2012: Proceedings of the IEEE PES International Conference on Power Systems Technology*, 2012.
30. Y. Jiang, X. Pan, K. Li, Q. Lv, R. Dick, M. Hannigan, and L. Shang. ARIEL: Automatic Wi-Fi based room fingerprinting for indoor localization. In *Proceedings of the 14th intl. conference on Ubiquitous computing, UbiComp '12*, 2012.

31. X. Xing, Y.-L. Liang, S. Huang, H. Cheng, R. Han, Q. Lv, X. Liu, S. Mishra, and Y. Zhu. Scalable misbehavior detection in online video chat services. In *KDD'12: Proceedings of The 18th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, Aug. 2012.
32. T. Kooh, Q. Lv, and S. Mishra. Attribute based content sharing in mobile adhoc networks of smartphones over WiFi. In *ICCCN 2012: Proceedings of the 21st IEEE International Conference on Computer, Communication and Networks*, pages 1–9, Jul. 2012. Acceptance rate: 30%.
33. K. Li, M. Lu, F. Lu, Q. Lv, L. Shang, and D. Maksimovic. Personalized driving behavior monitoring and analysis for emerging hybrid vehicles. In *Proc. of the 10th Intl. Conf. on Pervasive Computing*, pages 1–19, June 2012. (**Computational Sustainability Award**)
34. Y. Xiang, L. S. Bai, R. Piedrahita, R. P. Dick, Q. Lv, M. Hannigan, and L. Shang. Collaborative calibration and sensor placement for mobile sensor networks. In *IPSN'12: Proc. of the 11th ACM/IEEE Intl. Conf. on Information Processing in Sensor Networks*, 2012.
35. H. Cheng, Y.-L. Liang, X. Xing, X. Liu, R. Han, Q. Lv, and S. Mishra. Efficient misbehaving user detection in online video chat services. In *WSDM'12: Proceedings of the 5th ACM International Conference on Web Search and Data Mining*, 2012.
36. Y. Jiang, K. Li, L. Tian, R. Piedrahita, X. Yun, O. Mansata, Q. Lv, R. P. Dick, M. Hannigan, and L. Shang. MAQS: A personalized mobile sensing system for indoor air quality monitoring. In *Proc. of the 13th intl. conf. on Ubiquitous computing*, UbiComp '11, pages 271–280, 2011.
37. Y. Jiang, D. Li, G. Yang, Q. Lv, and Z. Liu. Deliberation for intuition: a framework for energy-efficient trip detection on cellular phones. In *Proceedings of the 13th international conference on Ubiquitous computing*, UbiComp '11, pages 315–324, 2011.
38. H. Gu, X. Xie, Q. Lv, Y. Ruan, and L. Shang. ETree: Effective and efficient event modeling for real-time online social media networks. In *Proceedings of the 2011 IEEE/WIC/ACM Intl. Conf. on Web Intelligence and Intelligent Agent Technology (WI-IAT 2011)*, pages 300–307, 2011.
39. D. Li, Q. Lv, H. Xia, L. Shang, T. Lu, and N. Gu. Pistis: A privacy-preserving content recommender system for online social communities. In *Proceedings of the 2011 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology (WI-IAT 2011)*, pages 79–86, 2011.
40. X. Xing, Y.-L. Liang, H. Cheng, J. Dang, S. Huang, R. Han, X. Liu, Q. Lv, and S. Mishra. SafeVchat: Detecting obscene content and misbehaving users in online video chat services. In *Proc. of the 20th intl. conf. on World Wide Web*, WWW '11, pages 685–694, 2011.
41. M. Gartrell, X. Xing, Q. Lv, A. Beach, R. Han, S. Mishra, and K. Seada. Enhancing group recommendation by incorporating social relationship interactions. In *Group '10: Proceedings of the ACM 2010 International Conference on Supporting Group Work*, Nov. 2010.
42. D. Grunwald, A. Beach, K. Bauer, Q. Lv, and D. Sicker. The risks and regulation of location. In *TPRC '10: Proceedings of the 38th Research Conference on Communication, Information and Internet Policy*, pages 1–24, Oct. 2010.

43. K. Li, J. Wu, Y. Jiang, Z. Hassan, L. Shang, Q. Lv, and D. Maksimovic. Large-scale battery system modeling and analysis for emerging electric-drive vehicles. In *ISPLED '10: Proc. of the Intl. Symp. on Low Power Electronics and Design*, 2010. (**Best Paper Award Nomination**)
44. A. Beach, M. Gartrell, X. Xing, R. Han, Q. Lv, S. Mishra, and K. Seada. Fusing mobile, sensor, and social data to fully enable context-aware computing. In *HotMobile '10: Proceedings of the 11th International Workshop on Mobile Computing Systems and Applications*, Feb. 2010.
45. C. Zhu, K. Li, Q. Lv, L. Shang, and R. P. Dick. iScope: Personalized multi-modality image search for mobile devices. In *Mobisys '09: Proceedings of the 7th international conference on Mobile systems, applications, and services*, pages 277–290, Krakow, Poland, Jun. 2009.
46. Q. Lv, W. Josephson, Z. Wang, M. Charikar, and K. Li. Multi-probe LSH: Efficient indexing for high-dimensional similarity search. In *VLDB '07: Proc. of the 33rd Intl. Conf. on Very large data bases*, pages 950–961, Sep. 2007. (**VLDB 2017 Ten Year Best Paper Award**)
47. Z. Wang, W. Dong, W. Josephson, Q. Lv, M. Charikar, and K. Li. Sizing sketches: A rank-based analysis for similarity search. In *SIGMETRICS '07: Proc. of the 2007 ACM SIGMETRICS intl. conf. on Measurement and modeling of computer systems*, pages 157–168, Jun. 2007.
48. Z. Wang, W. Josephson, Q. Lv, M. Charikar, and K. Li. Filtering image spam with near-duplicate detection. In *CEAS '07: Proceedings of the 4th Conference on Email and Anti-Spam*, Aug. 2007.
49. Q. Lv, W. Josephson, Z. Wang, M. Charikar, and K. Li. Ferret: A toolkit for content-based similarity search of feature-rich data. In *EuroSys '06: Proceedings of the 1st ACM SIGOPS/EuroSys European Conference on Computer Systems 2006*, pages 317–330, Apr. 2006.
50. Q. Lv, W. Josephson, Z. Wang, M. Charikar, and K. Li. Efficient filtering with sketches in the Ferret toolkit. In *MIR '06: Proceedings of the 8th ACM international workshop on Multimedia information retrieval*, pages 279–288, Santa Barbara, California, USA, Oct. 2006.
51. Q. Lv, M. Charikar, and K. Li. Image similarity search with compact data structures. In *CIKM '04: Proceedings of the thirteenth ACM international conference on Information and knowledge management*, pages 208–217, Nov. 2004.
52. Q. Lv, P. Cao, E. Cohen, K. Li, and S. Shenker. Search and replication in unstructured peer-to-peer networks. In *ICS '02: Proceedings of the 16th international conference on Supercomputing*, pages 84–95, Jun. 2002. (**2,506 citations**)
53. Q. Lv, S. Ratnasamy, and S. Shenker. Can heterogeneity make Gnutella scalable? In *IPTPS '02: Revised Papers from the First International Workshop on Peer-to-Peer Systems*, pages 94–103. Springer-Verlag, Mar. 2002. (**315 citations**)
54. C. Ying, Q. Lv, Y. Liu, and M. Shi. Routing protocols overview and design issues for self-organized networks. In *WCC-ICCT '00: Proceedings of the 16th World Computer Congress – International Conference on Communication Technology*, volume 2, pages 1304–1309, Beijing, China, Aug. 2000.



55. C. Ying, Q. Lv, D. Li, and M. Shi. QoS routing in self-organized network. In *WCC-ICCT '00: Proceedings of the 16th World Computer Congress – International Conference on Communication Technology*, volume 2, pages 1298–1303, Beijing, China, Aug. 2000.

## Patents

- Qin Lv, William Josephson, Zhe Wang, Moses Charikar, Kai Li. Multi-Probe LSH: Efficient Indexing for High-Dimensional Similarity Search. United States provisional patent application (serial number 61/189,185).
- Kai Li, Qin Lv, Moses Charikar. Similarity Search System with Compact Data Structures. Patent No. US 7,966,327 B2.

## Professional Services

- Associate Editor. ACM IMWUT (PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies).
- Technical Program Committee:
  - MobiSys: International Conference on Mobile Systems, Applications, and Services (2016, 2017, 2019, 2020) (External Review Committee: 2015, 2018)
  - SenSys: ACM Conference on Embedded Networked Sensor Systems. Publication Chair (2015). Technical Program Committee (2018, 2020). External Technical Program Committee (2019).
  - ICDCS 2019: The 39th IEEE International Conference on Distributed Computing Systems. Technical Program Committee.
  - PerCom: IEEE International Conference on Pervasive Computing and Communication (2013, 2015, 2016, 2017, 2018, 2019, 2020)
  - HotMobile: International Workshop on Mobile Computing Systems and Applications. Technical Program Committee (2015, 2017).
  - SIGIR: Annual ACM SIGIR Conference on Research and Development in Information Retrieval. Technical Program Committee (2018, 2019, 2020).
  - SECON: IEEE International Conference on Sensing, Communication, and Networking (2017, 2020)
  - WSDM: ACM International Conference on Web Search and Data Mining (2017)
  - Mobiquitous: EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (2014, 2016, 2017)
  - UbiComp: ACM International Joint Conference on Pervasive and Ubiquitous Computing (2012, 2013, 2014, 2016)
  - WI: IEEE/WIC/ACM International Conference on Web Intelligence (2012, 2015)
  - MobiCASE: International Conference on Mobile Computing, Applications and Services (2014)
  - WWW: International World Wide Web Conference (2014)

- SIGMETRICS: ACM SIGMETRICS International Conference on Measurement and Modeling of Computer Systems (2011, 2012, 2013)
  - PhoneCom: IEEE ICDCS International Workshop on Sensing, Networking, and Computing with Smartphones (2012)
  - IWQoS: IEEE/ACM International Workshop on Quality of Service (2011)
  - WOCM–Multimedia Symposium: IEEE Annual Wireless and Optical Communications Conference (2011)
  - MCS: International Workshop on Mobile Cloud Computing & Services: Social Networks and Beyond (2010)
- Program Chair: HotMobile 2020
  - Workshop Chair: MobiSys 2020
  - Workshop Co-Chair: UbiComp 2020
  - Doctoral Symposium Co-Chair: UbiComp 2019
  - TPC Co-Chair: GPC 2018 (The 13th International Conference on Green, Pervasive and Cloud Computing)
  - TPC Co-Chair: CyberSafety 2017 (International Workshop on Computational Methods for CyberSafety)
  - Workshop Co-Chair: CyberSafety 2016 and 2019 (International Workshop on Computational Methods for CyberSafety)
  - Publication Chair: MobiCom 2016 (International Conference on Mobile Computing and Networking); SenSys 2015 (ACM Conference on Embedded Networked Sensor Systems).
  - Publicity Chair: WIC 2012 (IEEE/WIC/ACM World Intelligence Congress, co-chair); ISCA 2008 (International Symposium on Computer Architecture).
  - Registration Chair: RMCWiC 2012, 2014, 2016 and 2018 (Rocky Mountain Celebration of Women in Computing); CCWIC 2010 (Colorado Celebration of Women in Computing); ANCS 2005 (ACM/IEEE Symposium on Architectures for Networking and Communications Systems).
  - Session Chair: UbiComp 2013, 2014, 2016, 2017, 2018 (ACM International Joint Conference on Pervasive and Ubiquitous Computing); MobiSys 2018 (International Conference on Mobile Systems, Applications, and Services); HotMobile 2015 and 2017 (International Workshop on Mobile Computing Systems and Applications).
  - Reviewer. ACM Transactions on Information Systems (TOIS), ACM Transactions on Internet Technology (TOIT), ACM Computing Surveys (CSUR), ACM Computer Communication Review (CCR), IEEE Transactions on Big Data (TBD), IEEE Transactions on Human-Machine Systems (THMS), IEEE Transactions on Mobile Computing (TMC), IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE Transactions on Parallel and Distributed Systems (TPDS), IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transactions on Image Processing (TIP), IEEE Transactions on Information Forensics & Security (TIFS), IEEE Transactions on Computers (TC), IEEE Transactions on Software

Engineering (TSE), IEEE Transactions on Network and Service Management (TNSM), IEEE Design & Test, IEEE Journal on Selected Areas in Communication (JSAC), IEEE Communications Letters, Pervasive and Mobile Computing (PMC), Data & Knowledge Engineering (DKE) Journal, Information Systems (IS), Information Processing & Management (IPM), Journal of Parallel and Distributed Computing (JPDC), International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI), Transactions in GIS, etc.