# Curriculum Vitae — Jianliang Xu

## March 2024

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## ACADEMIC POSITIONS

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|---|---|
| Jul 2023 – Present | **Chair Professor**, Hong Kong Baptist University |
| Sep 2013 – Jun 2023 | **Full Professor**, Hong Kong Baptist University |
| Sep 2008 – Aug 2013 | **Associate Professor**, Hong Kong Baptist University |
| Dec 2009 – Jan 2010 | **Senior Visiting Fellow**, Fudan University, China |
| May 2005 – Jun 2005 | **Visiting Scholar**, Pennsylvania State University, University Park, USA |
| Sep 2002 – Aug 2008 | **Assistant Professor**, Hong Kong Baptist University |

## RESEARCH INTERESTS

AI & Big Data, Databases, Blockchain, Data Security & Privacy

## EDUCATION

Ph.D., August 2002, Computer Science, Hong Kong University of Science and Technology, Hong Kong

B.Eng. (First Class Honors), June 1998, Computer Science & Engineering, Zhejiang University, Hangzhou, China

## AWARDS & HONORS

- **World's Top 2% Scientist** (career-long), Stanford University, 2022
- **Best Faculty Article Award**, Chinese Communication Association, 2022
- **Best Paper Award**, International Workshop on Mobile Ubiquitous Systems and Technologies (MUST), 2021
- **Best Paper Nominee Award** (5/970), The 29th ACM International Conference on Information and Knowledge Management (CIKM), 2020
- **Best Paper Award** (1/211), The 20th Int'l Conference on Web Information Systems Engineering (WISE), 2019
- **Nomination for HKSAR UGC Teaching Award** (General Faculty Member), 2018
- **HKBU President's Award for Outstanding Performance in Teaching**, 2018
- **HKBU President's Award for Outstanding Performance in Scholarly Work**, 2017
- **HKBU Faculty Performance Award for Outstanding Young Researcher**, 2012
- **First-Class Award**, The 12th National Challenge Cup Contest, 2011
- **Best Student Paper Award Runner-up**, The15th International Conference on Database Systems for Advanced Applications (DASFAA), 2010
- **Zhu Kezhen Scholarship** (竺可楨獎學金), the highest honor for graduates of Zhejiang University (only top 6 out of 2000+ graduates awarded in that year), 1998

## RESEARCH GRANTS (*totaling over HK$30M in the PI capacity*)

### A. RGC / Collaborative Research Fund (CRF)

1. **PI**, "User-Controlled Data Sharing and Analytics with Blockchain and Trusted Computing Technologies", CRF C2004-21GF, 2022-2025, HK$6,734,880.

2. **Co-PI**, "Federated Graph Management and Querying: Subgraphs, Keywords, and Privacy", YCRG C2003-23Y, 2024-2027, HK$4,854,870.
3. **Co-PI**, "Genomic Insights into Environmental Adaptation and Diversity of Deep-sea Siboglinida", CRF C2013-22GF, 2023-2026, HK$3,058,128.
4. **Co-PI**, "A Human-Powered Machine Learning System", CRF C6030-18G, 2019-2022, HK$3,716,381 (HK$621,000 allocated to HKBU).
5. **Co-PI**, "Security and Privacy-enhancing Technologies for Cloud Storage of Big Data", CRF C1008-16G, 2017-2020, HK$5,983,404 (HK$1,020,000 allocated to HKBU).

**B. RGC / Theme-based Research Scheme (TRS)**
6. **Co-PI**, "Building Platform Technologies for Symbiotic Creativity in Hong Kong", TRS T45-205/21-N, 2021-2026, HK$60,936,000.

**C. RGC / Research Impact Fund (RIF)**
7. **Co-PI**, "Integrating ChatGPT with Search Engine, Recommender System and Online Advertising to Enhance User Experience on Online Service Platforms", RIF R1015-23, 2024-2027, HK$7,000,000.
8. **Co-PI**, "Development and Evaluation of the Effectiveness of an Online Cognitive Behavioral Intervention Program for Hong Kong People with Social Anxiety Disorder", RIF R2018-18, 2019-2023, HK$6,286,227.

**D. RGC / General Research Fund (GRF)**
9. **PI**, "When Learned Index Meets Blockchain: Design, Algorithms, and Performance Evaluation", RGC/GRF, 12200022, 2023-2025, HK$1,086,185.
10. **PI**, "Federated Data Analytics using Hardware Enclaves", RGC/GRF, 12202221, 2022-2024, HK$563,714.
11. **PI**, "Stateless Blockchains for Scalable Transaction Processing", RGC/GRF, 12201520, 2021-2023, HK$1,057,394.
12. **PI**, "Towards Integrity-Assured Search in Scalable Blockchain Systems", RGC/GRF, 12200819, 2020-2022, HK$731,089.
13. **PI**, "Verifiable Publish/Subscribe Queries over Outsourced Data Streams", RGC/GRF, 12201018, 2019-2021, HK$693,000.
14. **PI**, "Keyword-based Spatial Influence Queries", RGC/GRF, HKBU12200817, 2018-2020, HK$875,000.
15. **PI**, "Authenticated Analytical Query Services on Set-Valued Data", RGC/GRF, 12244916, 2017-2019, HK$844,559.
16. **PI**, "Social-Aware Ridesharing in Location-Based Services", RGC/GRF, 12201615, 2016-2018, HK$496,028.
17. **PI**, "Authenticated Queries for Cloud-Assisted Multi-Source Data Collection", RGC/GRF, 12202414, 2015-2018, HK$875,000.
18. **PI**, **"**Differentially Private Publication of Network Data via Density-Based Exploration and Reconstruction", RGC/GRF, 12200914, 2014-2017, HK$500,000.
19. **PI**, "iGPS: Privacy-Preserving Geo-Proximity Services in Location-based Social Networks", RGC/GRF, 211512, 2012-2015, HK$700,000.
20. **PI**, "Transaction Management for Flash-based Database Systems: Protocols, Implementations and Optimizations", RGC/GRF, 211510, 2010-2012, HK$600,636.
21. **PI**, "Query Processing in Flash-Based Storage-Centric Sensor Networks", RGC/GRF, 210808, 2009-2011, HK$307,657.
22. **PI**, "Data-Centric Filter Management and Routing Optimization for Distributed Monitoring Systems", RGC/GRF, 211307, 2008-2010, HK$381,150.
23. **PI**, "iPDA: Privacy-Preserving Location-based Data Access in Mobile Environments", RGC/GRF, 2112/06E, 2006-2009, HK$356,000.
24. **PI**, "ECOQUAD: Energy-Conserving Quality-Aware Data Collection in Wireless Sensor Networks", RGC/GRF, 2115/05E, 2005-2008, HK$391,852.

**E. RGC / German-Hong Kong Joint Research Scheme**
25. **PI**, "Energy-Efficient Data Management with Novel Storage Technologies" (German partner: Prof. Theo Härder / University of Kaiserslautern), G_HK018/11, 2012-2013, HK$52,000.

**F. ITC / Innovation and Technology Fund (ITF)**
26. **PI**, "Privacy-Preserving Large-Scale Indoor Location Tracking using Wearable Devices", ITF/ITSP Tier 2, ITS/288/15FX & InP/085/16 & InP/129/16, 2016-2018, HK$2,002,150 + HK$381,360 + HK$373,326.

27. **Co-PI & Deputy Coordinator**, "Development of an Online Cognitive Behavioural Intervention Program to Reduce Depressive Symptoms for Adults with Depression", ITB/FBL/1002/18/P, 2019-2021, HK$4,664,561.

28. **Co-PI & Research Team Leader**, "Hybrid Geofencing Systems for Elderly and Child Care", ITF/ITSP Tier 2, ITS/231/13FX, 2014-2016, HK$2,378,200.

## G. National Natural Science Foundation of China (NSFC) and Others

29. **Co-PI**, "面向智慧城市和智慧物流中新型問題的關鍵機理與方法研究", 廣東省基礎與應用基礎研究基金−粵港澳研究團隊, Guangdong Basic and Applied Basic Research Foundation, 2023B1515130002, 2024.1-2027.12, RMB 2,000,000, (¥600,000 allocated to HKBU).

30. **PI**, "Verifiable Query System for Blockchain Structured Data", CCF-Ant Research Fund, RF20210014, 2022-2023, RMB 398,400.

31. **Co-PI**, "城市大數據與智能處理關鍵理論與技術", 廣東省基礎與應用基礎研究基金−粵港澳研究團隊, Guangdong Basic and Applied Basic Research Foundation, 2019B1515130001, 2020.1-2023.12, RMB 3,000,000, (¥600,000 allocated to HKBU).

32. **PI**, "陽江地方特色產業防偽溯源區塊鏈創新服務平台", 廣東省科技專項資金, SDZX2019042, 2019.7-2021.6, RMB 2,000,000.

33. **PI**, "The 20th IEEE Int'l Conf. on Mobile Data Management (MDM)", Croucher Foundation, 2019.6, HK$90,000.

34. **PI**, "Design and Optimization of GPU Accelerated AI Engine for Name Entity Recognition", ASTRI, 2019.4-2019.6, HK$250,000.

35. **PI**, "Blockchain-based Supply Chain System", Consultancy Project, Zhongshuo (Hong Kong) Co., Ltd., 2018.5-2020.4, HK$486,000.

36. **Co-PI**, "新一代無線智能體驗終端與大數據採集分析平台研發", 廣州市科技計劃項目產學研協同創新重大專項(港澳台地區合作項目), 2017.5-2019.4, RMB 1,000,000.

37. **Co-PI**, "Flash-based Database Systems", NSFC Key Project No. 60833005, 2009-2012, ¥2,000,000. Subcontract: "Flash-Optimized Query Processing Algorithms", RMB 200,000.

## H. HKBU / Faculty Research Grant (FRG)

38. **PI**, "Multi-Source Query Authentication", HKBU/FRG2/13-14/064, 2014-2016, HK$135,000.

39. **PI**, "Reverse Keyword Search in Spatio-Textual Queries", HKBU/FRG2/12-13/081, 2013-2015, HK$134,820.

40. **PI**, "μPDA: Mutual Privacy-Preserving Data Access in Mobile Geo-Social Networking Services", HKBU/FRG2/11-12/074, 2012-2014, HK$120,000.

41. **PI**, "Privacy-Aware Location Data Publishing for Mobile Computing Applications", HKBU/FRG 07-08/II-23, 2008-2010, HK$110,000.

42. **PI**, "Adaptive Data Collection for Real-Time Monitoring in Wireless Sensor Networks", HKBU/FRG 05-06/II-65, 2006-2008, HK$110,000.

43. **PI**, "Data Dissemination Algorithms in a Wired/Wireless Integrated Environment," HKBU/FRG 04-05/II-26, 2005-2007, HK$124,000.

44. **PI**, "Improving Content Distribution with QoS Guarantees", HKBU/FRG 03-04/II-19, 2004-2006, HK$108,864.

45. **PI**, "Processing and Scheduling Location-Dependent Queries", HKBU/FRG 02-03/II-34, 2003-2005, HK$181,440.

## I. Teaching Development Grant

46. **Co-PI**, "Enhancing Learning in Engineering Courses via ChatGPT-enabled Learning Tools", UGC FITE IICA #03, 2023-2026, HK$300,000.

47. **PI**, "Web-based Tutoring for Enhancing Teaching and Learning of Database Systems", TDG/0607/III/09, 2008, HK$98,000.

# PUBLICATIONS

- *Received >13,000 citations in total, with h-index 60, according to Google Scholar (March 2024)*[†]
- *Papers received ≥ 100 citations are marked with \*\*\**
- *120+ papers published in CCF Rank-A Journals and Conferences*[‡]

## A. Refereed Conference Papers

1. C. Zhang, C. Xu, H. Hu, and J. Xu. "COLE: A Column-based Learned Storage for Blockchain Systems." *Proc. of the 22nd USENIX Conference on File and Storage Technologies (FAST '24)*, Santa Clara, CA, USA, 2024.

2. X. Zhang, Q. Wang, C. Xu, Y. Peng, and J. Xu. "FedKNN: Secure Federated k-Nearest Neighbor Search." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '24)*, Santiago, Chile, 2024.

3. X. Luo, J. Pei, C. Xu, W. Zhang, and J. Xu. "Fast Shapley Value Computation in Data Assemblage Tasks as Cooperative Simple Games." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '24)*, Santiago, Chile, 2024.

4. C. Luo, Y. Zhu, Q. Liu, Y. Gao, L. Chen, and J. Xu. "MCR-Tree: An Efficient Index for Multi-dimensional Core Search." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '24)*, Santiago, Chile, 2024.

5. X. Liao, Q. Liu, X. Huang, and J. Xu. "Truss-based Community Search over Streaming Directed Graphs." *Proc. the 50th International Conference on Very Large Data Bases (PVLDB '24)*, Guangzhou, China, 2024.

6. T. N. Chan, R. Zang, B. Zhu, L. H. U, D. Wu, and J. Xu. "LION: Fast and High-Resolution Network Kernel Density Visualization." *Proc. the 50th International Conference on Very Large Data Bases (PVLDB '24)*, Guangzhou, China, 2024.

7. H. Wang, C. Xu, X. Chen, C. Zhang, H. Hu, S. Tian, Y. Yan, and J. Xu. "$V^2FS$: A Verifiable Virtual Filesystem for Multi-Chain Query Authentication." *Proc. the 40th IEEE International Conference on Data Engineering (ICDE '24)*, Utrecht, Netherlands, May 2024.

8. X. Ran, Q. Ye, H. Hu, X. Huang, J. Xu, and J. Fu. "Differentially Private Graph Neural Networks for Link Prediction." *Proc. the 40th IEEE International Conference on Data Engineering (ICDE '24)*, Utrecht, Netherlands, May 2024.

9. Z. Sun, X. Huang, C. Piao, C. Long, and J. Xu. "Adaptive Truss Maximization on Large Graphs: A Minimum Cut Approach." *Proc. the 40th IEEE International Conference on Data Engineering (ICDE '24)*, Utrecht, Netherlands, May 2024.

10. L. Sun, X. Huang, Z. Wu, and J. Xu. "Efficient Cross-layer Community Search in Large Multilayer Graphs." *Proc. the 40th IEEE International Conference on Data Engineering (ICDE '24)*, Utrecht, Netherlands, May 2024.

11. Y. Peng, S. Lin, Q. Chen, L. Xu, X. Ren, Y. Li, and J. Xu. "ChatGraph: Chat with Your Graphs." *Proc. the 40th IEEE International Conference on Data Engineering (ICDE '24)*, Utrecht, Netherlands, May 2024. (Demo Paper)

12. J. Zhu, H. Li, J. Yao, T. Liu, J. Xu, and B. Han. "Unleashing Mask: Explore the Intrinsic Out-of-Distribution Detection Capability." *Proc. of the 40th International Conference on Machine Learning (ICML '23),* Hawaii, USA, July 2023.

13. X. Zhu, R. Tang, L. Chen, X. Li, X. Huang, M. Yuan, W. Sheng, and J. Xu. "A Database Dependent Framework for K-Input Maximum Fanout-Free Window Rewriting." *Proc. the 60th ACM/IEEE International Conference on Design Automation Conference (DAC '23)*, San Francisco, California, USA, July 2023.

14. L. Xu, B. Choi, Y. Peng, J. Xu, and S. S. Bhowmick. "A Framework for Privacy Preserving Localized Graph Pattern Query Processing." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '23)*, Seattle, WA, USA, June 2023.

15. Z. Sun, X. Huang, Q. Liu, and J. Xu. "Efficient Star-based Truss Maintenance on Dynamic Graphs." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '23)*, Seattle, WA, USA, June 2023.

16. Y. Peng, B. Choi, T. N. Chan, J. Yang, and J. Xu. "Efficient Approximate Nearest Neighbor Search in Multi-dimensional Databases." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '23)*, Seattle, WA, USA, June 2023.

17. J. Zhu, J. Yao, T. Liu, Q. Yao, J. Xu, and B. Han. "Combating Exacerbated Heterogeneity for Robust Models in Federated Learning." *Proc. of the International Conference on Learning Representations (ICLR '23)*, Kigali, Rwanda, May 2023.

18. Q. Liu, X. Liao, X. Huang, J. Xu, and Y. Gao. "Distributed (α, β)-Core Decomposition over Bipartite Graphs." *Proc. the 39th IEEE International Conference on Data Engineering (ICDE '23)*, Anaheim, California, USA, April 2023.

19. H. Zhu, W. Liu, J. Yin, N. Cui, J. Xu, X. Huang, and W.-C. Lee. "Keyword-based Socially Tenuous Group Queries." *Proc. the 39th IEEE International Conference on Data Engineering (ICDE '23)*, Anaheim, California, USA, April 2023.

20. Y. Ji, C. Xu, C. Zhang, and J. Xu. "DCert: Towards Secure, Efficient and Versatile Blockchain Light Clients." *Proc. the 23rd ACM/IFIP International Middleware Conference (Middleware '22)*, Québec City, Québec, Canada, 2022.

21. T. N. Chan, L. H. U, B. Choi, and J. Xu. "SLAM: Efficient Sweep Line Algorithms for Kernel Density Visualization." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '22)*, Philadelphia, PA, USA, 2022.

22. T. N. Chan, P. L. Ip, L. H. U, B. Choi, and J. Xu. "Fast Network K-function-based Spatial Analysis." *Proc. the 48th International Conference on Very Large Data Bases (PVLDB '22)*, Sydney, Australia, 2022.

23. X. Liao*, Q. Liu*, J. Jiang, X. Huang, J. Xu, and B. Choi. "Distributed D-core Decomposition over Large Directed Graphs." *Proc. the 48th International Conference on Very Large Data Bases (PVLDB '22)*, Sydney, Australia, 2022. (*equal contribution)

24. T. N. Chan, P. L. Ip, L. H. U, B. Choi, and J. Xu. "SAFE: A Share-and-Aggregate Bandwidth Exploration Framework for Kernel Density Visualization." *Proc. the 48th International Conference on Very Large Data Bases (PVLDB '22)*, Sydney, Australia, 2022.

25. T. N. Chan, P. L. Ip, L. H. U, B. Choi, and J. Xu. "SWS: A Complexity-Optimized Solution for Spatial-Temporal Kernel Density Visualization." *Proc. the 48th International Conference on Very Large Data Bases (PVLDB '22)*, Sydney, Australia, 2022.

26. H. Wang, C. Xu, C. Zhang, J. Xu, Z. Peng, and J. Pei. "vChain+: Optimizing Verifiable Blockchain Boolean Range Queries." *Proc. the 38th IEEE International Conference on Data Engineering (ICDE '22)*, Kuala Lumpur, Malaysia, May 2022.

27. Y. Peng, B. Choi, T. N. Chan, and J. Xu. "LAN: Learning-based Approximate k-Nearest Neighbor Search in Graph Databases." *Proc. the 38th IEEE International Conference on Data Engineering (ICDE '22)*, Kuala Lumpur, Malaysia, May 2022.

28. G. Li, B. Choi, J. Xu, S. S. Bhowmick, D. Mah, and G. L.-H. Wong. "IPS: Instance Profile for Shapelet Discovery for Time Series Classification." *Proc. the 38th IEEE International Conference on Data Engineering (ICDE '22)*, Kuala Lumpur, Malaysia, May 2022.

29. H. Zhu, W. Liu, J. Yin, M. Wang, J. Xu, X. Huang, and W.-C. Lee. "Continuous Geo-Social Group Monitoring over Moving Users." *Proc. the 38th IEEE International Conference on Data Engineering (ICDE '22)*, Kuala Lumpur, Malaysia, May 2022.

30. T. Liu, Z. Feng, H. Li, H. Lu, L. Shou, and J. Xu. "IKAROS: An Indoor Keyword-Aware Routing System." *Proc. the 38th IEEE International Conference on Data Engineering (ICDE '22)*, Kuala Lumpur, Malaysia, May 2022. (Demo Paper)

31. J. Zhu, J. Yao, B. Han, J. Zhang, T. Liu, G. Niu, J. Zhou, J. Xu, and H. Yang. "Reliable Adversarial Distillation with Unreliable Teachers." *Proc. of the 10th International Conference on Learning Representations (ICLR '22)*, Virtual, April 2023.

32. Y. Tang, K. Li, Q. Zhang, J. Xu, and J. Chen. "Authenticated Key-Value Stores with Hardware Enclaves." *ACM/IFIP Middleware 2021*, Québec, Canada, Dec. 2021.

33. C. Xu*, C. Zhang*, J. Xu, and J. Pei. "SlimChain: Scaling Blockchain Transactions through Off-Chain Storage and Parallel Processing." *Proc. the 47th International Conference on Very Large Data Bases (PVLDB '21),* Copenhagen, Denmark, 2021. (*equal contribution)

34. Q. Liu, X. Zhu, X. Huang, and J. Xu. "Local Algorithms for Distance-generalized Core Decomposition over Large Dynamic Graphs." *Proc. the 47th International Conference on Very Large Data Bases (PVLDB '21)*, Copenhagen, Denmark, 2021, pp. 1531-1543.

35. T. N. Chan, Z. Li, L. H. U, J. Xu, and R. Cheng. "Fast Augmentation Algorithms for Network Kernel Density Visualization." *Proc. the 47th International Conference on Very Large Data Bases (PVLDB '21)*, Copenhagen, Denmark, 2021, pp. 1503-1516.

36. X. Zhu, X. Huang, B. Choi, J. Jiang, Z. Zou, and J. Xu. "Budget Constrained Interactive Search for Multiple Targets." *Proc. the 47th International Conference on Very Large Data Bases (PVLDB '21),* Copenhagen, Denmark, 2021, pp. 890-902.

37. Y. Peng, B. Choi and J. Xu. "Graph Edit Distance Learning via Modeling Optimum Matchings with Constraints." *Proc. the 30th International Joint Conference on Artificial Intelligence (IJCAI '21)*, 2021.

38. Y. Huang, J. Tang, Q. Cong, A. Lim, and J. Xu. "Do the Rich Get Richer? Fairness Analysis for Blockchain Incentives." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '21)*, Xi'an, China, June 2021, pp. 790-803.

39. Z. Peng, C. Xu, , H. Wang, J. Huang, J. Xu, and X. Chu. "P$^2$B-Trace: Privacy-Preserving Blockchain-based Contact Tracing to Combat Pandemics." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '21)*, Xi'an, China, June 2021, pp. 2389-2393.

40. Z. Sun, X. Huang, J. Xu, and F. Bonchi. "Efficient Probabilistic Truss Indexing on Uncertain Graphs." *Proc. The 30th Web Conference (WWW '21)*, Ljubljana, Slovenia, April 2021, pp. 354-366.

41. C. Zhang*, C. Xu*, H. Wang, J. Xu, and B. Choi, "Authenticated Keyword Search in Scalable Hybrid-Storage Blockchains." *Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE '21)*, Chania, Crete, Greece, April 2021, pp. 996-1007. (*equal contribution)

42. L. Xu, J. Jiang, B. Choi, J. Xu, and S. S. Bhowmick. "Privacy Preserving Strong Simulation Queries on Large Graphs." *Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE '21)*, Chania, Crete, Greece, April 2021, pp. 1500-1511.

43. Y. Li , H. Gu, R. Chen, J. Xu, and M. Xu. "Top-k Publish/Subscribe for Ride Hitching." *Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE '21)*, Chania, Crete, Greece, April 2021, pp. 2291-2296. (Short paper)

44. G. Li, B. Choi, J. Xu, S. S. Bhowmick, K-P Chun, and G. L.-H. Wong. "ShapeNet: A Shapelet-Neural Network Approach for Multivariate Time Series Classification." *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI '21),* Virtual Event, 2021, pp. 8375-8383.

45. W. Li, H. Zhu, W. Liu, J. Yin, and J. Xu. "Optimal Sequenced Route Query with POI Preferences." *Proceedings of the 26th International Conference on Database Systems for Advanced Applications (DASFAA '21)*, Taipei, Taiwan, April 2021, pp. 457-473.

46. Z. Peng, J. Huang, H. Wang, S. Wang, X. Chu, X. Zhang, L. Chen, X. Huang, X. Fu, Y. Guo, and J. Xu. "BU-Trace: A Permissionless Mobile System for Privacy-Preserving Intelligent Contact Tracing." *Proc. the 3rd International Workshop on Mobile Ubiquitous Systems and Technologies (MUST '21)*, Taipei, Taiwan, April 2021, pp. 381-397. (**Best Paper Award**)

47. K. Li, Y. Tang, J. Chen, Z. Yuan, C. Xu, and J. Xu. "Cost-Effective Data Feeds to Blockchains via Workload-Adaptive Data Replication." *ACM/IFIP Middleware 2020*, Delft, Netherlands, Dec. 2020, pp. 371-385.

48. X. Zhu, X. Huang, B. Choi, and J. Xu. "Top-k Graph Summarization on Hierarchical DAGs." *Proc. of the ACM* International *Conference on Information and Knowledge Management (CIKM '20)*, Oct. 2020, pp. 1903-1912. (**Best Paper Nominee Award, top 5 out of 970 submissions**)

49. X. Zhu, X. Huang, J. Huang, B. Choi, and J. Xu. "HDAG-Explorer: An Interactive System for Hierarchical DAG Summarization and Exploration." *Proc. the 46th International Conference on Very Large Data Bases (PVLDB '20)*, Tokyo, Japan, 2020, pp. 2973-2976. (Demo Paper)

50. Q. Liu, M. Zhao, X. Huang, J. Xu, and Y. Gao. "Truss-based Community Search over Large Directed Graphs." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '20)*, Portland, OR, USA, June 2020, pp. 2183-2197.

51. H. Wang, C. Xu, C. Zhang, and J. Xu. "vChain: A Blockchain System Ensuring Query Integrity." *Proc. of the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '20)*, Portland, OR, USA, June 2020, pp. 2693-2696. (Demo Paper)

52. Q. Liu, Y. Zhu, M. Zhao, X. Huang, J. Xu, and Y. Gao. "VAC: Vertex-Centric Attributed Community Search." *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 937-948.

53. J. Jiang, X. Huang, B. Choi, J. Xu, S. S Bhowmick, and L. Xu. "PPKWS: An Efficient Framework for Keyword Search on Public-Private Networks." *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 457-468.

54. R. Yang, X. Lin, J. Xu, Y. Yang, and L. He. "Optimizing Knowledge Graphs through Voting-based User Feedback." *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 421-432.

55. Z. Feng, T. Liu, H. Li, H. Lu, L. Shou, and J. Xu. "Indoor Top-k Keyword-aware Routing Query." *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 1213-1224.

56. T. Liu, Z. Feng, H. Li, H. Lu, M. A. Cheema, H. Cheng, and J. Xu. "Shortest Path Queries for Indoor Venues with Temporal Variations." *Proc. the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 2014-2017. (Short Paper)

57. S. Guo, Y. Ji, C. Zhang, C. Xu, and J. Xu, "vCBIR: A Verifiable Search Engine for Content-Based Image Retrieval." *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE '20)*, Dallas, Texas, USA, April 2020, pp. 1730-1733. (Demo Paper)

58. J. Huang, X. Huang, Y. Zhu, and J. Xu. "Parameter-Free Structural Diversity Search," *Proceedings of the 20th International Conference on Web Information Systems Engineering (WISE '19)*, Hong Kong, Nov. 2019, pp. 677-693. (**Best Paper Award**)

59. L. Sun, X. Huang, and R.-H. Li, J. Xu. "Fast Algorithms for Intimate-Core Group Search in Weighted Graphs," *Proceedings of the 20th International Conference on Web Information Systems Engineering (WISE '19)*, Hong Kong, Nov. 2019, pp. 728-744.

60. L. Liu, X. Huang, J. Xu, and Y. Song. "Oasis: Online Analytic System for Incivility Detection and Sentiment Classification," *Proceedings of IEEE International Conference on Data Mining (ICDM '19)*, Beijing, 2019, pp. 1098-1101. (Demo Paper)

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## B. Refereed Journal Papers

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2. Y. Li, H. Li, B. Mei, X. Huang, J. Xu, and M. Xu. "Fairness-Guaranteed Task Assignment for Crowdsourced Mobility Services." *IEEE Transactions on Mobile Computing (**TMC**)*, accepted to appear, 2023.

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**C. Edited Books / Proceedings**

1. Y. Cai, Y. Ishikawa, and J. Xu (Eds.) *Web and Big Data, 2nd APWeb-WAIM Joint International Conference*. Lecture Notes in Computer Science, Vol. 10987, Springer, 2018.

2. B. Cui, N. Zhang, J. Xu, X. Lian, and D. Liu (Eds.) *Web-Age Information Management, 17th International Conference WAIM 2016*. Lecture Notes in Computer Science, Vol. 9658-9, Springer, 2016.

3. Y. Chen, W.-T. Balke, J. Xu, et al. (Eds.) *Web-Age Information Management - WAIM 2014 International Workshops: BigEM, HardBD, DaNoS, HRSUNE, BIDASYS*. Lecture Notes in Computer Science, Springer, 2014.

4. J. Wang, H. Xiong, Y. Ishikawa, J. Xu, and J. Zhou (Eds.) *Web-Age Information Management, 14th International Conference WAIM 2013*. Lecture Notes in Computer Science, Vol. 7923, Springer, 2013.

5. J. Xu, G. Yu, S. Zhou, and R. Unland (Eds.) *Database Systems for Advanced Applications, DASFAA 2011 International Workshops*. Lecture Notes in Computer Science, Vol. 6637, Springer, 2011.

6. X. Meng, Y. Chen, J. Xu, and J. Lu (Eds.) *Proceedings of the Second International CIKM Workshop on Cloud Data Management (CloudDB 2010)*, ACM, 2010.

7. X. Tang, J. Xu, and S. T. Chanson (Eds.) *Web Content Delivery.* New York: Springer Publisher, ISBN 0-387-24356-9, Springer, 2005.

**D. Authored Books / Book Chapters**

1. X. Huang, L. V.S. Lakshmanan, and J. Xu. "*Community Search in Large Graphs.*" Morgan & Claypool Publishers, August 2019.

2. C. Xu, C. Zhang, and J. Xu. "Verifiable Cloud Computing." *Encyclopedia of Wireless Networks.* S. Shen, X. Lin, and K. Zhang, Eds., Springer, 2019.

3. H. Hu, J. Zhou, J. Xu, and J. K. Ng. "Positioning and Privacy in Location-based Services." *Handheld Computing for Mobile Commerce: Applications, Concepts, and Technologies*. W.-C. Hu and Y. Zuo, Eds., Idea Group Publishing, Feb. 2010, pp. 279-299.

4. H. Hu, J. Xu, and X. Tang. "Energy Efficient Data Management." *Sensor Network and Configuration: Fundamentals, Techniques, Platforms, and Experiments*, Chapter 12, N. P. Mahalik, Ed., New York: Springer Publisher, ISBN: 978-3-540-37364-3, 2007, pp. 259-279.

5. J. Xu. "Mobile Caching for Location-based Services." *Encyclopedia of E-Commerce, E-Government and Mobile Commerce*, M. Khosrow-Pour, Ed., Idea Group Publishing, ISBN: 1-59140-799-0, March 2006.

6. J. Xu, H. Hu, X. Tang, and B. Zheng. "Mobile Cache Management." *Wireless Information Highways*, Chapter

2, D. Katsaros et al., Eds., Idea Group Publishing, ISBN: 1-59140-568-8, 2005, pp. 32-59.

7. J. Xu and J. Liu. "Broadcast Scheduling Algorithms for Wireless Data Dissemination." *Design and Analysis of Wireless Networks*, Chapter 8, Y. Pan and Y. Xiao, Eds., Nova Science, ISBN: 1-59454-186-8, 2004.

8. **J. Xu, D. L. Lee, Q. Hu, and W.-C. Lee. "Data Broadcast." *Handbook of Wireless Networks and Mobile Computing*, I. Stojmenovic, Ed., Chapter 11, John Wiley & Sons, 2002, ISBN 0-471-41902-8, pp. 243-265.

**E. Others**

1. "Large-scale Geospatial Analytics: Problems, Challenges, and Opportunities." (with Edison Chan et al.). Tutorial presented at *the ACM SIGMOD Int'l Conf. on Management of Data (SIGMOD '23)*, Seattle, WA, USA, 2023.

2. "Special issue on Web information management and applications." (with Yi Cai). *World Wide Web*, 23(3): 2129-2130, 2020.

3. "Special Issue of APWeb-WAIM 2018." (with Yi Cai and Qing Li). *Springer Journal of Data Science and Engineering*, 4(1): 1-2, March 2019.

4. "Community Search over Big Graphs: Models, Algorithms, and Opportunities." (with Xin Huang and Laks V.S. Lakshmanan). Tutorial presented at *The 33rd IEEE International Conference on Data Engineering* (*ICDE '17*), San Diego, April 2017.

5. "移动社交网络中的位置隐私保护." (with H. Hu and Q. Chen). 中国计算机学会通讯, 100(6): 58-63, June 2014.

6. "Flash-Based Database Systems: Experiences from the FlashDB Project." (with X. Meng and L. Yue). In *Proc. the International Workshop on Flash-based Database Systems (FlashDB '11)*, April 2011. (Invited Talk)

7. "Editorial for Special Section: Scalable Information Systems." (with W.-C. Lee, Jianzhong Li, and F. Silvestri). *Elsevier Journal of Future Generation Computer Systems (FGCS)*, 25(1): 51-52, January 2009.

8. "Data Access Techniques in Location-Based Services." (with W.-C. Lee and B. Zheng). Tutorial presented at *The 7th Int. Conf. on Mobile Data Management (MDM '06)*, Nara, Japan, May 2006.

9. "Data Management in Location-Based Services." (with W.-C. Lee and B. Zheng). Tutorial presented at *The 20th IEEE International Conference on Data Engineering* (*ICDE '04*), Boston, March 2004.

## INVITED TALKS

1. J. Xu, "Large-scale Geospatial Analytics: Challenges and Opportunities." *The 28th International Conference on Database Systems for Advanced Applications (DASFAA 2023)*, April 17-20, 2023. (***Invited Keynote***)

2. J. Xu, "Integrity-Assured Query Processing." *The 6th International Conference on Data Storage and Data Engineering (DSDE 2023),* Feb. 24-26, 2023. (***Invited Keynote***)

3. J. Xu, "Towards Searchable Blockchain Systems." *The 4th International Conference on Blockchain Technology (ICBCT 2022),* March 25-27, 2022. (***Invited Keynote***)

4. J. Xu, "Lightweight Blockchains." *The 10th Forum of Intelligent Search in Cyberspace & Future Data (FFD)*, Sept 8-10, 2021. (***Invited Talk***)

5. J. Xu, "Introduction to Blockchain." *VLDB Summer School*, July 13-17, 2020. (***Invited Lecture***)

6. J. Xu, "Blockchain Data Management: Challenges and Opportunities." *The 36th National Database Conference (NDBC)*, Oct. 11-13, 2019. (***Invited Keynote***)

7. J. Xu, "Blockchain Data Management." *The 8th Forum of Future Data (FFD)*, Nov 21-22, 2019. (***Invited Talk***)

8. J. Xu, "Towards Searchable Blockchain", *The ACM Turing Celebration Conference - China (ACM TURC 2019)*, May 17-19, 2019. (***Invited Keynote***)

9. J. Xu, "Data Security and Privacy in Blockchain", *The 3rd National Annual Conference on Data Security and Privacy Protection (DSPP)*, September 27-29, 2018. (***Invited Talk***)

10. J. Xu, "Towards Trustworthy and Interactive Queries on Big Spatial Data", *The 2nd IEEE International Conference on Data Science in Cyberspace (DSC)*, June 26-29, 2017. (***Invited Talk***)

11. J. Xu, "Big Spatial Data: Towards Interactive, Trustworthy and Social-Aware Search", *The 2nd HKUST CSE Alumni Homecoming Workshop on Systems, Applications, Networks, and Data (SAND)*, June 17, 2017. (***Invited Talk***)

12. J. Xu, "Towards Interactive and Social-Aware Spatial Query Services", *The 18th Asia-Pacific Web Conference*, September 23-25, 2016. (***Distinguished Lecture***)
13. J. Xu, "Querying Cloud Data with Confidentiality and Integrity Assurance", *The First Europe-China Workshop on Big Data Management*, Helsinki, Finland, May 16, 2016. (***Invited Talk***)
14. J. Xu, "Secure Query Services in Outsourced Cloud Environments", *International Workshop on Ubiquitous Cyber Security*, Oct 29-30, 2015. (***Invited Plenary Talk***)
15. J. Xu, "Authenticated Query Services in Data Outsourcing and Integration", *The 17th Asia-Pacific Web Conference*, September 18-20, 2015. (***Distinguished Young Lecture***)
16. J. Xu, "Secure Query Services in Outsourced Cloud Environments", *CCF YOCSEF Shenzhen-HK Forum on Big Data*, Shenzhen, June 12, 2015. (***Invited Talk***)
17. J. Xu, "Privacy-Aware Query Processing." *International Workshop on Big Data Privacy Management*, Beijing, May 14, 2015. (***Invited Talk***)
18. J. Xu, "Location Privacy Protection in Geo-Social Networks." *CCF YOCSEF Forum on Privacy Protection in Social Networks*, Beijing, Feb. 28, 2014. (***Invited Talk***)
19. J. Xu, "Research Experience Sharing through a Case Study on Authenticated Query Processing in Cloud ." *The 30th National Database Conference (NDBC)*, Haerbin, August 2013. (***Invited Tutorial Talk***)
20. J. Xu, "Optimizing Transaction Logging and Recovery Performance with Phase-Change Memory", *Dagstuhl Seminar on Robust Query Processing*, August 2012. (***Invited Talk***)
21. J. Xu, "Managing Data Effectively on Flash Memory Disks." *The 2011 International Workshop on Advanced Data Management (ADM 2011)*, December 2011. (***Invited Talk***)
22. J. Xu, "Flash-Based Database Systems: Experiences from the FlashDB Project." *The First International Workshop on Flash-based Database Systems (FlashDB '11)*, April 2011. (***Invited Talk***)

## US PATENTS

1. "Method for Index-based and Integrity-assured Search in a Blockchain" (with C. Xu and C. Zhang). US Non-Provisional Patent No. 11,283,616, filed on March 25, 2020, granted on March 22, 2022.
2. "Method and Apparatus for Assuring Location Data Integrity with Minimum Location Disclosure" (with H. Hu and Q. Chen). US Non-Provisional Patent No. 9,973,514, filed on Oct. 26, 2015, granted on May 15, 2018.
3. "System and Method for Providing Proximity Information" (with H. Hu). US Non-Provisional Patent No. 9,351,116, filed on May 30, 2013, granted on May 24, 2016.
4. "Method and Apparatus for Authenticating Location-based Services without Compromising Location Privacy" (with H. Hu and Q. Chen). US Non-Provisional Patent No. 9,043,927, filed on Feb. 19, 2013, granted on May 26, 2015.

## TEACHING (Ranging from year one fundamental courses to final year and postgraduate advanced courses)

- COMP2016: Database Management (Spring 2006-2007, 2014; Fall 2007-2012, Spring 2013-2023)
- COMP2440: Database Systems II (Spring 2003-2005)
- COMP2840: Computer Architectures (Fall 2002, 2005)
- COMP2860: Web Systems Application Development (Fall 2003-2004)
- COMP3140: Computer and Network Security (Fall 2009)
- COMP4035: Database System Implementation (Spring 2007-2017)
- COMP3670: Mobile Computing (Fall 2014)
- COMP3820: Information Systems Security and Auditing (Spring 2003-2005, 2011)
- COMP7640: Database Systems and Administration (Fall 2005, 2010, 2012-2013, 2015-2018)
- COMP7160: Research Methods in Computer Science (Fall 2019)
- I.T.1510: World Wide Web Application Development (Fall 2006)

## ADVISING

**A. Postgraduate/Postdoctoral Students**

- Lanjing Yi, PhD Student, Started in Fall 2023, Research Topic: "Vector Database."
- Ruofei Tang, PhD Student, Started in Fall 2022, Research Topic: "Graph Computing."
- Xinyi Zhang, PhD Student, Started in Fall 2021, Research Topic: "Federated Data Analytics."
- Xuankun Liao, PhD Student, Started in Fall 2020, Research Topic: "Distributed Graph Algorithms."
- Haixin Wang, PhD Student, Started in Fall 2019, Research Topic: "Blockchain Query Processing."
- Ce Zhang, PhD Student, Graduated in Aug. 2023, Research Topic: "Verifiable Search in Distributed Computing." (*first employment, Postdoc Fellow, Hong Kong Baptist University, Hong Kong*)
- Yang Ji, MPhil Student, Graduated in Jan. 2023, Research Topic: "Blockchain and Trusted Hardware."
- Qing Liu, Postdoctoral Fellow, 2017-2022, Research Topic: "Graph and Spatial Query Processing." (*first employment, Associate Professor, Zhejiang University, China*)
- Xiaoguo Li, Postdoctoral Fellow, 2019-2021, Research Topic: "Federated Data Analytics." (*first employment, Postdoc Fellow, Singapore Management University, Singapore*)
- Xiaoyi Fu, PhD Student, Graduated in Dec. 2019, Research Topic: "Social-aware Ridesharing." (*first employment, Lecturer, Hong Kong Baptist University, Hong Kong*)
- Cheng Xu, PhD Student, Graduated in Feb. 2019, Research Topic: "Query Authentication." (*first employment, Postdoc Fellow, Simon Fraser University, Canada; current employment: Senior Software Developer, Fortinet*)
- Shangwei Guo, Postdoctoral Fellow, 2018-2019, Research Topic: "Verifiable Multimedia Search." (*first employment, Postdoc Fellow, Nanyang Technological University, Singapore*)
- Lei Chen, PhD Student, Graduated in Dec. 2016, Thesis Title: "Answering Why-Not Questions on Spatial Keyword Top-$k$ Queries." (*first employment: Researcher, Huawei Noah's Ark Lab, Hong Kong*)
- Jingjing Chen, PhD Students, Graduated in Summer 2016, Thesis Title: "Enhancing Student Engagement and Interaction in E-learning Environments through Learning Analytics and Wearable Sensing." (*first employment: Assistant Professor, Zhejiang University of Technology, China*)
- Yafei Li, PhD Student, Graduated in Summer 2015, Thesis Title: "Efficient Group Queries in Location-based Social Networks." (*first employment: Assistant Professor, Zhengzhou University, China*)
- Qian Chen, PhD Student, Graduated in Summer 2015, Thesis Title: "Query Authentication in Data Outsourcing and Integration Services." (*first employment: Senior R&D Engineer, NetEase Games, Hangzhou, China; current employment: Software Engineer, Google*)
- Zhe Fan (Co-supervisor), PhD Student, Graduated in Summer 2015, Thesis Title: "Secure Subgraph Query Services" (*first employment: Senior Software Engineer, Huawei, Shenzhen, China*)
- Xiaofeng Ding, Postdoctoral Fellow, 2014, Research Topic: "Privacy Management for Big Data." (Supported by the Hong Kong Scholars Program) (*first employment: Associate Professor, Huazhong University of Science and Technology, Wuhan, China*)
- Dingming Wu, Postdoctoral Fellow, 2011-2013, Research Topic: "Social-aware Spatial Keyword Queries." (*first academic employment: Assistant Professor, Shenzhen University, Shenzhen, China*)
- Xin Lin, Postdoctoral Fellow, 2011-2013, Research Topic: "Mobile Query Authentication." (Supported by the First Hong Kong Scholars Program) (*first employment: Associate Professor, East China Normal University, Shanghai, China*)
- Yun Peng (Co-supervisor), PhD Student, Graduated in Summer 2013, Thesis Title: "Estimation Techniques for Advanced Database Application." (*first employment: Postdoc Fellow, Nanyang Technological University, Singapore; current employment: Advisory Researcher, Lenovo Big Data Research Centre, HK*)
- Shen Gao, MPhil Candidate, Graduated in Summer 2013, Thesis Title: "Transaction Logging and Recovery for Phase-Change Memory." (*first placement: PhD student at University of Zurich; current employment: Software Engineer, Google, Zurich*)
- Hong Ping Li, MPhil Candidate, Graduated in Spring 2013, Thesis Title: "Secure Proximity Queries in Mobile Geo-Social Services" (*first employment: ICT Graduate Trainee, PCCW, HK*)

- Yu Li, PhD Student, Graduated in Summer 2011, Thesis Title: "Indexing and Query Processing for Flash-based Database Systems." *(first employment: Senior Software Engineer, Tencent, China; current employment: Solution Engineer, Facebook).*
- Jintian Deng (Co-supervisor), MPhil Student, Graduated in Summer 2011, Thesis Title: "Incremental Maintenance of Minimal and Minimum Bisimulation of Cyclic Graphs"." *(first employment: Software Engineer, Alibaba, China)*
- Chushi Ren, FYP Student, Graduated in Summer 2011 with First-Class Honor, Undergraduate Thesis Title: "iGreen: Enabling Privacy-Preserving Location-based Services." *(first placement: Postgraduate Student at University of Pennsylvania).*
- Sai Tung On, MPhil Student, Graduated in Summer 2010, Thesis Title: "Efficient Transaction Recovery in Flash-based Databases." *(first employment: System Developer, Vegasoul Fund, HK)*
- Haibo Hu, Postdoctoral Fellow, 2006-2008, Research Topic: "Trustworthy Monitoring of Continuously Moving Objects." *(first employment: Research Assistant Professor, HKBU; current employment: Assistant Professor, Hong Kong Polytechnic University)*
- Jing Du, MPhil Student, Graduated in Summer 2007, Thesis Title: "Privacy-Preserving Data Access in Mobile Computing Environments." *(first employment: R&D Leader, Rose Datasystems, China)*
- Minji Wu, MPhil Student, Graduated in Summer 2006, Thesis Title: "Energy-Efficient Query Processing in Wireless Sensor networks." *(first placement: PhD student at Rutgers University; current employment: Software Engineer, Microsoft)*
- MSc Students: Qinghui Liu (2009), Cheong Chi Joey Li (2008), Zhijun Li (2008), Yan Lu (2008), Ruming Wu (2007), Yicong Huang (2007), Tak Chung Lee (2007), Kwok Cheong Tang (2007), Nan Huang (2007)

## B. Student Achievements

- PhD supervisor, Ruofei Tang was awarded the **Best Student Paper Award** at The 32nd International Workshop on Logic & Synthesis (IWLS '23), 2023
- FYP Supervisor, Dezhi Chen won the **First Prize Award** in the Pan-Pearl River Delta+ Universities IT Project Competition (out of 2,000+ projects submitted from 17 provinces and cities), 2023
- Postdoc supervisor, Qing Liu was awarded **National Science Fund for Distinguished Overseas Young Talents**, 2022
- PhD co-supervisor, Xuliang Zhu won **Best Paper Nominee Award** in the 29th ACM International Conference on Information and Knowledge Management (CIKM), 2020
- PhD co-supervisor, Jinbin Huang won **Best Paper Award** in the 20th Int'l Conference on Web Information Systems Engineering (WISE), 2019
- PhD supervisor, Ce Zhang won **Student Travel Award** in **IEEE ICDE 2019**
- PhD supervisor, Cheng Xu won **Student Travel Award** in **ACM SIGMOD 2018**
- Supervisor, Wenzhou Wei and Haixin Wang won the **Third Prize** in **2017 HSBC FinTech (Safeguard App) Competition**
- PhD supervisor, Yafei Li won **2016 ACM China Doctoral Dissertation Award Chapter Winner**
- PhD supervisor, Lei Chen won **Student Travel Award** from **IEEE ICDE 2015**
- PhD supervisor, Qian Chen won **Student Travel Awards** from **ACM SIGMOD 2012** and **IEEE ICDE 2013**
- FYP & MPhil Supervisor, FlashDB project (by Gao Shen) won the **First-Class Award in the 12th National Challenge Cup Contest**, October 2011. (8% of the shortlisted projects were awarded First-Class Awards)
- FYP Supervisor, Chushi Ren won the **2nd Runner-up Prize** in Hong Kong and **Bronze Prize** in the Final Round of the 2011 Amway Pan-Pearl River Delta Region Universities IT Project Competition (participated by 136 universities in the Pan-Pearl River Delta Region)
- FYP Supervisor, Shen Gao won a **Merit Prize** in the 2010 HKEIA Innovation & Technology Project Competition Award (10 awarded out of 30+ project submissions from all local universities)
- FYP Supervisor, Shen Gao won the **3rd Runner-up Prize** in Hong Kong and **Bronze Prize** in the Final Round of the 2010 Amway Pan-Pearl River Delta Region Universities IT Project Competition

- Co-advisor, Xingjie Liu won the **Best Student Paper Award Runner-up** in the 15th Intl. Conference on Database Systems for Advanced Applications (DASFAA), 2010
- Coach, five student teams won the **Champion University Award** in 2008 IBM DB2 Inter-University Programming Contest, which consists of 28 teams from eight universities in Hong Kong and Macau
- Co-advisor, Haibo Hu won the **ACM-HK Best PhD Paper Award**, 2005

## C. PhD Thesis External Examiners

- 50+ PhD theses for Technical University of Kaiserslautern (Germany), Queensland University (Australia), University of New South Wales (Australia), University of Technology Sydney (Australia), National University of Singapore (Singapore), Nanyang Technological University (Singapore), University of Hong Kong, Hong Kong University of Science and Technology, Chinese University of Hong Kong, City University of Hong Kong, Hong Kong Polytechnic University

# PROFESSIONAL SERVICES

## A. Journal Editorship

- Associate Editor, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 2023 – Present
- Associate Editor, *IEEE Transactions on Big Data (TBD)*, 2023 – Present
- Associate Editor, *Proceedings of the VLDB Endowment (PVLDB)*, 2017 – 2018; 2023 – 2024
- Associate Editor, *Data Science and Engineering (DSE)*, Springer, 2022 – Present
- Editorial Board Member, *Journal of Computer Science and Technology (JCST)*, Springer, 2022 – Present
- Advisory Board Member, *Blockchain*, ELSP, 2022 – Present
- Associate Editor, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2014 – 2020
- Associate Editor, *International Journal of Information Science and Engineering (JISE)*, 2016 – 2022
- Associate Editor, *International Journal of Distributed Sensor Networks (IJDSN)*, Hindawi, 2010 – 2014
- Review Board Member, *Proceedings of the VLDB Endowment (PVLDB)*, 2013-2014, 2016-2017, 2018-2021, 2025
- Guest Editor, *World Wide Web Journal (WWWJ)*, Springer, 2020
- Guest Editor, *Distributed and Parallel Databases (DAPD)*, Springer, 2020
- Guest Editor, *Data Science and Engineering (DSE)*, Springer, 2019
- Guest Editor, *Future Generation Computer Systems (FGCS)*, Elsevier, 2009

## B. Department/Faculty/University Services

- Head, Department of Computer Science, HKBU, 2021 –
- Convenor, University Research Cluster on Data Analytics and AI, HKBU, 2019 – 2021
- Acting Associate Dean (Research), Faculty of Science, HKBU, 2020 – 2021
- Senate Member, HKBU, 2018 – 2020, 2021 –
- Member, Teaching and Learning Policy Committee, HKBU, 2022 – 2023
- Member, e-Learning Committee, HKBU, 2018 – 2020
- Associate Head (Research & Development), Department of Computer Science, HKBU, 2017 – 2021
- Management Committee Member, Data and Media Communication (DMC) Interdisciplinary Concentration, 2017 –
- Chair, Departmental Research Committee, HKBU, 2016 – 2021
- TA/Instructor Coordinator, Department of Computer Science, HKBU, 2018 – 2021
- Coordinator, Departmental Research Postgraduate Programme, HKBU, 2016 – 2021
- Member of Departmental Management Committee, 2013 –
- Acting Associate Head, Department of Computer Science, HKBU, January – July 2016
- Acting Chair of Departmental Undergraduate Management Committee, January – July 2016
- Acting Programme Coordinator, BSc (Hons) in Computer Science, January – July 2014
- Member of Faculty Review Panel, 2014 – 2016

- Member of Departmental Review Panel, 2013 – 2017
- Member of Faculty Task Force on Research Assessment Exercise, 2012 – 2014
- Member of Faculty Task Force on PhD Fellowship Scheme, 2013 - 2014
- Member, Science Elite Programme, 2013 – 2014
- Member of Accreditation Panel for HKBU-UIC Computer Science & Technology Program, 2013
- Coordinator of HKIE Accreditation Exercise on BSc (Hons) Degree in CS / IS Programme, 2012
- Departmental Coordinator for RGC's Visit, 2011
- Chinese Medicine & Science Specialist Panel, 2008 – 2018
- Departmental Four-Year Curriculum Committee (chairing Task Force Group #1 with focus on fundamental courses), 2008 – 2011
- Final Year Project (Computer Science) Coordinator and Faculty Project Committee Member, 2004 – 2016
- External Examiner of HKBU-UIC Computer Science & Technology Program, 2010 – Present
- Faculty & Department System Security Review Task Force Co-Chair, 2008
- University Complementary Studies Committee Member, 2005 – 2006
- Computer Science Program Committee Member, 2002 – Present
- PG-Day Coordinator, 2005 – 2006
- Departmental Colloquium Coordinator, 2002 – 2006
- Faculty Safet /Workshop Committee Member, 2003 – 2004

## C. Professional Organization Services
- Chair, Best PhD Dissertation Committee, ACM SIGSPATIAL China, 2022
- Panel Member, Hong Kong RGC Selection Panel of the Hong Kong PhD Fellowship Scheme and Postdoctoral Fellowship Scheme, 2019 – 2021
- Panel Member, Hong Kong RGC Engineering Panel, 2016 – 2022
- Advisory Committee Chair, School of Decision Sciences, Hang Seng University of Hong Kong, 2022 –
- Advisory Committee Member, School of Decision Sciences, Hang Seng University of Hong Kong, 2017 – 2019
- Vice Chair, ACM SIGMOD Hong Kong Chapter, 2013 – 2016
- Vice Chair, ACM Hong Kong Chapter, 2008 – 2010
- Executive Committee Member, ACM Hong Kong Chapter, 2003 – 2010

## D. Conference / Workshop Organization
- Area Chair, The 40th IEEE Int'l Conference on Data Engineering (ICDE '24), Utrecht, Netherlands, April 2024.
- General Co-Chair, The 23rd IEEE International Conference on Mobile Data Management (MDM '22), Paphos, Cyprus, June 2022.
- General Co-Chair, The 22nd IEEE International Conference on Mobile Data Management (MDM '21), Toronto, Canada, June 2021.
- TPC Co-Chair, The 37th National Database Conference (NDBC '20), October 2020.
- TPC Co-Chair, The 2nd IEEE International Workshop on Blockchain and Data Management (BlockDM '20), in conjunction with ICDE, April 2020.
- TPC Co-Chair, The 20th IEEE International Conference on Mobile Data Management (MDM '19), Hong Kong, June 2019.
- TPC Co-Chair, The 1st IEEE International Workshop on Blockchain and Data Management (BlockDM '19), in conjunction with ICDE, April 2019.
- TPC Co-Chair, The 2nd APWeb-WAIM Joint Conference on Web and Big Data, Macau, July 2018.
- TPC Co-Chair, The 17th International Conference on Web-Age Information Management (WAIM '16), Nanchang, China, June 2016.
- TPC Co-Chair, The Third IEEE International Conference on Cyber-Physical Systems, Networks, and Applications (CPSNA '15), Hong Kong, August 2015.

- TPC Track Chair, The 2014 National Conference on Social Media Processing (SMP '14), Beijing, China, November 2014.
- TPC Co-Chair, The Second International Workshop on Big Data Management on Emerging Hardware (HardBD '14), Macau, China, June 2014.
- TPC Co-Chair, The 2013 IEEE International Workshop on Big Data Analytics in Mobile Social Networks (BigMSN '13), Fuzhou, China, December 2013.
- TPC Vice-Chair, The 32nd IEEE International Conference on Distributed Computing Systems (ICDCS 2012), Macau, China, June 2012.
- TPC Vice-Chair and Best Paper Selection Committee Member, The 18th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2012), Singapore, November 2012.
- TPC Co-Chair, The 2nd Intl. Workshop on Flash-based Database Systems (FlashDB 2012), Busan, South Korea, April 2012.
- TPC Co-Chair, The 2nd ACM Intl. Workshop on Cloud Data Management (CloudDB 2010), Toronto, Canada, October 2010.
- TPC Co-Chair, The 2nd Intl. Workshop on Peer-to-Peer Computing for Information Search (P2PSearch '08), Hainan Island, China, December 2008.
- TPC Co-Chair, International Workshop on P2P Information Management (P2PIM '06), Hong Kong, May 2006.

- Best Paper Committee Chair, NDBC 2022, August 2022
- Local Organizing Team Member, ICDE 2019, Macau, April 2019
- Best Paper Committee Member, DASFAA 2017, Suzhou, China, March 2017
- Publicity Co-Chair, Int'l Conf. on Privacy-Aware Computing (PAC 2017), Washington DC, USA, August 2017
- Publication Co-Chair, NDBC 2016, Shenzhen, China, Oct 2016
- Publicity Co-Chair, BigCOMP 2016, Hong Kong, China, Jan. 2016
- Student Activities Co-Chair, INFOCOM 2015, Hong Kong, China, April 2015
- Workshop Co-Chair, The 15th International Conference on Web-Age Information Management (WAIM), Macau, China, June 2014
- Publication Co-Chair, The 14th International Conference on Web-Age Information Management (WAIM), Beidaihe, China, June 2013
- Demo Co-Chair, The 18th Intl. Conference on Database Systems for Advanced Applications (DASFAA), Wuhan, China, April 2013
- Workshop Co-Chair, The 14th IEEE International Conference on Mobile Data Management (MDM), Milan, Italy, June 2013
- Workshop Co-Chair, The 16th Intl. Conference on Database Systems for Advanced Applications (DASFAA), Hong Kong, April 2011
- Publicity Co-Chair, The 10th Intl. Conf. on Mobile Data Management (MDM '09), Taipei, Taiwan, May 2009
- Seminar Co-Chair, The 9th Intl. Conf. on Mobile Data Management (MDM '08), Beijing, China, April 2008
- Publication Chair, The 2nd Intl. Conf. on Mobile Ad-hoc and Sensor Networks (MSN '06), Hong Kong December 2006.
- Organizing Committee Member, IEEE ICDM '06 / WI '06 / IAT '06, Hong Kong, December 2006.
- Local Arrangement Co-Chair, IEEE INFOCOM '04, Hong Kong, March 2004.

**E. Conference/Workshop Technical Program Committee (TPC) Member**
- ACM SIGMOD International Conference on Management of Data (SIGMOD): 2011 (Demo), 2015, 2022
- International Conference on Very Large Data Bases (VLDB): 2014, 2017, 2019-2021, 2023
- IEEE International Conference on Data Engineering (ICDE): 2009-2012, 2015-2016 (Demo), 2018-2023
- IEEE International Conference on Mobile Data Management (MDM): 2004, 2006, 2008-2022
- International Conference on Database Systems for Advanced Applications (DASFAA): 2010-2020, 2021-2022 (Senior PC Member)
- International World Wide Web Conference (WWW): 2008, 2009, 2018

- IEEE International Conference on Big Data (BigData): 2013, 2014, 2017-2018 (Senior PC Member)
- ACM Conference on Information and Knowledge Management (CIKM): 2009, 2010, 2019 (Senior PC Member)
- The APWeb-WAIM Joint Conference on Web and Big Data: 2017 (Senior PC Member)
- International Conference on Database- and Expert Systems Applications (DEXA): 2009, 2010
- International Conference on Web-Age Information Management (WAIM): 2006, 2007, 2009-2015
- International Conference on Distributed Computing in Sensor Systems (DCOSS): 2015
- International ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE): 2012
- ACM International Workshop on Mobile Geographic Information Systems (MobiGIS): 2012-2015
- IFIP international conference on Distributed Applications and Interoperable Systems (DAIS): 2009
- ACM Symposium on Applied Computing (SAC): 2003-2015
- Asia-Pacific Web Conference (APWeb): 2007-2016
- ICDE Workshop on Uncertain Data Management: 2009
- IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC): 2008
- International Conference on Embedded Software and Systems (ICESS): 2008
- VLDB Workshop on Data Management for Sensor Networks (DMSN): 2006, 2007, 2008, 2010
- ICDE Workshop on RFID Data Management (RFDM): 2008
- ICDE Workshop on Ambient Intelligence, Media, and Sensing (AIMS): 2007
- MDM Workshop on Privacy-Aware Location-based Mobile Services (PALMS): 2007, 2008, 2009
- SIGMOD PhD Workshop on Innovative Database Research (IDAR): 2007
- IFIP International Conference on Embedded and Ubiquitous Computing (EUC): 2006, 2007, 2008, 2009
- Annual International Conference on Mobile and Ubiquitous Systems (MobiQuitous): 2007
- International Conference on Communications and Networking in China (CHINACOM): 2007, 2008
- SIWN International Conference on Complex Open Distributed Systems (CODS): 2007
- International Conference on Scalable Information Systems (INFOSCALE): 2007, 2009
- International workshop on DataBase Management and Application over Networks (DBMAN): 2007
- ICDCS Workshop on Mobile Distributed Computing (MDC): 2004-2007
- Annual IEEE Consumer Communications and Networking Conference (CCNC): 2007
- ICDM Workshop on Spatial and Spatio-temporal Data Mining (SSTDM): 2006
- IEEE TENCON Conference: 2006
- International Workshop on INformation Processing over Evolving Networks (WINPEN): 2006
- International Symposium on Pervasive Computing and Applications: 2006
- International Conference on Mobile Ad-hoc and Sensor Networks (MSN): 2005
- IEEE International Conference on e-Business Engineering (ICEBE): 2005, 2011
- International Symposium on Parallel and Distributed Processing and Applications (ISPA): 2005
- International Conference on Real-Time and Embedded Computing Systems and Applications (RTCSA): 2005
- International Workshop on Web Based Collaboration (WBC): 2003, 2004, 2005
- International Human.Society@Internet Conference (HSI): 2003, 2005
- Annual IEEE Conference INFOCOM: 2004