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Present academic position

Professor, Department of Computer Science, University of Hong Kong (2020–present)

Previous academic positions

Associate Professor, Department of Computer Science, University of Hong Kong (2012–2020)

Assistant Professor, Department of Computer Science, University of Hong Kong (2008–2012)

Assistant Professor, Department of Computing, Hong Kong Polytechnic University (2005–2008)

Research Interests

Databases and Data Mining, Uncertainty Management, Graph Databases, Knowledge Graphs

Education

Purdue University

West Lafayette, Indiana, USA

Ph.D., Computer Science, Sep 2001 - May 2005

- *Dissertation Topic:* “Managing Uncertainty in Constantly-Evolving Environments”
In database systems that monitor continuously-changing entities like temperature values and locations of moving objects, data are obtained from sensors continuously and streamed to the database. Due to limited bandwidth and battery power, it is infeasible for the system to keep track of the actual values of the entities. Queries that use these database values can produce incorrect answers. This dissertation studies uncertainty inherent to dynamic data, based on which *probabilistic queries* – query answers augmented with probabilistic guarantees – are proposed. A classification scheme of queries is presented, where we study evaluation of probabilistic queries and quality of probabilistic answers. We also investigate how to improve the computational and I/O performance of probabilistic queries. As a case study, we apply the idea of uncertainty handling to moving-object databases. We also study examine applications of probabilistic queries, including selection of sensors in a sensor network and control of location privacy.
- *Advisor:* Sunil Prabhakar

M.S., Computer Science, Sep 2001 - Dec 2003

University of Hong Kong

Hong Kong, China

M.Phil., Computer Science, Sep 1998 - Sep 2000

- *Dissertation Topic:* “View Updates and Temporal Correctness in Real-Time Databases”
This thesis is about the design of a set of concurrency control protocols, applied to a real-time database environment handling update streams and derived data. The proposed methods not only guarantee serializability, but also consider the trade-off between data freshness and transaction correctness.
- *Advisor:* Ben C. M. Kao

B. Eng., Computer Engineering, Sep 1995 - Jun 1998 (1st Class Honor)

- *Dissertation Topic:* “High Performance Generic Search Engine”
This is a team project where we implemented a C toolbox that allows programmers to customize a search engine with minimal effort. It supports various data types and languages. I was the project leader, where my main role was to coordinate among the five members, and assure that the software development process adhered to strict software engineering disciplines. The system was demonstrated to IBM in Hong Kong.
- *Advisor:* David W. L. Cheung

Research Output (journal articles, conference papers, book chapters, software)

Note: A “*” before the author name means he/she is my postdoc. fellow, graduate student, or research assistant.

Ph.D. Thesis

R. Cheng. *Managing Uncertainty in Constantly-Evolving Environments*. Ph.D thesis, Purdue University, 2005.

Journal Papers

- All articles below are international and have been externally refereed.
- A “[I]” before the publication indicates that the paper is important (i.e., published in top international journals or conferences).

- [J1] [I] T. N. Chan, L. H. U, **R. Cheng**, M. L. Yiu, and S. Mittal. *Efficient Algorithms for Kernel Aggregation Queries*. Accepted in the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Aug 2020. (*My contribution: 20%: I am involved in solution design and paper writing.*)
- [J2] [I] **C. Ma***, **R. Cheng**, L. Lakshmanan, T. Grubenmann, Y. Fang, and **X. Li**. *LINC: A Motif Counting Algorithm for Uncertain Graphs*. Accepted in the Proceedings of the VLDB Endowment (**PVLDB**), Sep 2019. Also in the Very Large Databases Conf. (**VLDB 2020**), Tokyo, Aug 2020. (*My contribution: 30%: I am involved in problem definition, solution development, and paper writing.*)
- [J3] [I] D. He, S. Wang, X. Zhou, and **R. Cheng**. *GLAD: A Grid and Labelling Framework with Scheduling for Conflict-Aware kNN Queries*. Accepted in the Transactions on Knowledge and Data Engineering (IEEE TKDE) Sep, 2019. (*My contribution: 20%: I am involved in problem definition, solution development, and paper writing.*)
- [J4] [I] Y. Fang, **K. Yu***, **R. Cheng**, L. Lakshmanan. *Efficient Algorithms for Densest Subgraph Discovery*. In Proceedings of the VLDB Endowment (**PVLDB**), 12(11), pp. 1719-1732, July 2019. Also in the Very Large Databases Conf. (**VLDB 2019**), Los Angeles, Aug 2019. (*My contribution: 30%: I am involved in problem definition, solution development, and paper writing.*)
- [J5] [I] **Y. Chen***, Y. Fang, **R. Cheng**, Y. Li, X. Chen, and J. Zhang. *Exploring Communities in Large Profiled Graphs*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), 31(8), pp. 1624-1629, 1 Aug, 2019. (*My contribution: 20%: I am involved in problem definition, solution development, and paper writing.*)
- [J6] [I] Y. Fang, X. Huang, L. Qin, Y. Zhang, W. Zhang, **R. Cheng**, and X. Lin. *A survey of community search over big graphs*. In the Very Large Data Bases Journal (**VLDBJ**), Springer, first online: Jul 2019. (*My contribution: 15%: I am involved in giving directions for structuring the survey and giving advice.*)
- [J7] [I] **C. Shan***, N. Mamoulis, G. Li, **R. Cheng**, **Z. Huang***, and **Y. Zheng**. *A Crowdsourcing Framework for Collecting Tabular Data*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Early Access (online), pp. 1-14, ISSN: 1041-4347, 3 May 2019. (*My contribution: 20%: I am involved in problem definition, solution development, and paper writing.*)
- [J8] [I] **S. Luo***, **R. Cheng**, B. Kao, X. Xiao, S. Zhou, and **J. Hu**. *ROAM: A Fundamental Routing Query on Road Networks with Efficiency*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Early Access (online), pp. 1-15, ISSN: 1041-4347, 19 Mar 2019. (*My contribution: 30%: I am involved in problem definition, solution development, and paper writing.*)
- [J9] Y. Li, Y. Fang, **R. Cheng**, and W. Zhang. *Spatial Pattern Matching: A New Direction for Finding Spatial Objects*. In **SIGSPATIAL Special**, Mar 2019, 11(1): Spatial Query Processing and Traffic Simulation, pp. 3-12. (*My contribution: 30%: I am involved in problem definition, solution development, and paper writing.*)
- [J10] [I] **Y. Fang***, Z. Wang, **R. Cheng**, H. Wang, and **J. Hu***. *Effective and Efficient Community Search over*

Large Directed Graphs. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Early Access, pp. 1-16, ISSN: 1041-4347, 4 Oct 2018. (My contribution: 20%: I am involved in problem definition, solution development, and paper writing.)

- [J11] [I] **Z. Huang***, B. Cautis, **R. Cheng**, and **Y. Zheng***, N. Mamoulis, and **J. Yan**. *Entity-Based Query Recommendation for Long-Tail Queries*. In ACM Transactions on Knowledge Discovery from Data (**TKDD**), 12(6), no. 64, pp. 1-24, Aug 2018. *Impact factor: 2.538, cited 3 times*. (My contribution: 20%: I am involved in problem definition, solution development, and paper writing.)
- [J12] [I] **S. Luo***, B. Kao, G. Li, **J. Hu***, **R. Cheng**, and **Y. Zheng***. *TOAIN: A Throughput Optimizing Adaptive Index for Answering Dynamic kNN Queries on Road Networks*. In Proceedings of the VLDB Endowment (**PVLDB**), 11(5), pp. 594-606, Jan 2018. Also in the Very Large Databases Conf. (**VLDB 2018**), Rio De Janeiro, Brazil, Aug 27-31, 2018. (My contribution: 15%: I give advice to the problem definition, design and paper presentation.)
- [J13] [I] **Y. Fang***, **Z. Wang***, **R. Cheng**, **X. Li***, **S. Luo***, **J. Hu***, and X. Chen. *On Spatial-Aware Community Search*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), 31(4), pp. 783-798, 8 Jun, 2018. (My contribution: 20%: I am involved in problem definition, solution development, and paper writing.)
- [J14] [I] **Y. Fang***, X. Xie, X. Zhang, **R. Cheng**, and Z. Zhang. *STEM: a suffix tree-based method for web data records extraction*. In Knowledge and Information Systems (**KAIS**), 55(2), pp. 305-331, 2018. (My contribution: 10%: I give comments to the paper.)
- [J15] [I] **Y. Fang***, **R. Cheng**, **S. Luo***, **J. Hu***, **X. Li***. *Effective Community Search over Large Spatial Graphs*. In Proceedings of the VLDB Endowment (**PVLDB**), 10(6), pp. 709-720, Feb 2017, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2017**), Munich, Germany, Aug 28-Sep 1, 2017. *Impact factor: 2.23 (RG), cited 43 times* (My contribution: 30%: I am involved in the problem definition, solution design, and paper writing.)
- [J16] [I] **Y. Zheng***, G. Li, Y. Li, **C. Shan***, and **R. Cheng***. *Truth Inference in Crowdsourcing: Is the Problem Solved? [Experiments and Analyses]*. In Proceedings of the VLDB Endowment (**PVLDB**), 10(5), pp. 541-552, Jan 2017, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2017**), Munich, Germany, Aug 28-Sep 1, 2017. *Impact factor: 2.23 (RG), cited 117 times* (My contribution: 15%: This is a joint work with Tsinghua University. I am involved in experiment design and paper writing.)
- [J17] [I] **Y. Zheng***, G. Li, and **R. Cheng***. *DOCS: Domain-Aware Crowdsourcing System*. In Proceedings of the VLDB Endowment (**PVLDB**), 10(4), pp. 361-372, Dec 2016, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2017**), Munich, Germany, Aug 28-Sep 1, 2017. *Impact factor: 2.23 (RG), cited 60 times* (My contribution: 30%: This is a joint work with Tsinghua University. I am involved in problem definition, solution development, and paper writing.)
- [J18] **Y. Fang***, **R. Cheng**, **S. Luo***, **J. Hu***, and **K. Huang***. *C-Explorer: Browsing Communities in Large Graphs*. In Proceedings of the VLDB Endowment (**PVLDB**), 10(11), pp. 1885-1888, Aug 2017, ISSN 2150-8097. Also presented in the 43rd Intl. Conf. on Very Large Data Bases (**VLDB**), Munich, Germany, August 2017. (My contribution: 40%: I am involved in interface design and paper writing.)
- [J19] [I] **J. Hu***, X. Wu, **R. Cheng**, **S. Luo***, and **Y. Fang***. *On Minimal Steiner Maximum-Connected Subgraphs*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), PP(99), July 2017, ISSN: 1041-4347. (My contribution: 25%: I am involved in problem definition, solution development, and paper writing.)
- [J20] [I] **S. Maniu***, **R. Cheng**, and P. Senellart. *An Indexing Framework for Queries on Probabilistic Graphs*. In ACM Transactions on Database Systems (**TODS**), 42(2), article 13, pp. 1-34, June 2017, ISSN: 0362-5915, *impact factor: 1.900, cited 11 times* (My contribution: 40%: I am involved in problem definition, solution development, and paper writing.)

- [J21] [I] C. Ren, E. Lo, B. Kao, X. Zhu, **R. Cheng**, and D. Cheung. *Efficient Processing of Shortest Path Queries in Evolving Graph Sequences*. In Information Systems (**IS**), Vol 70, Oct 2017, pp. 18-31. (My contribution: 15%: I am involved in solution development and paper writing.)
- [J22] **Y. Fang***, X. Xie, X. Zhang, **R. Cheng**, and Z. Zhang. *STEM: a suffix tree-based method for web data records extraction*. In Knowledge and Information Systems (**KAIS**), pp. 1-27, May 2017. (My contribution: 10%: I am involved in solution development, and paper writing.)
- [J23] K. A. Schmid, A. Zuefle, T. Emrich, M. Renz, and **R. Cheng**. *Uncertain UV cell computation based on space decomposition. (Extended from [68], one of the best papers from SSTD for consideration in Geoinformatica)* In **GeoInformatica**, Springer, ISSN 1573-7624, pp. 1-31, Feb 2017. (My contribution: 20%: I am involved in problem definition, solution development, and paper writing.)
- [J24] [I] Z. He, P. Wong, B. Kao, E. Lo, **R. Cheng**, and Z. Feng. *Efficient Pattern-Based Aggregation on Sequence Data*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), ISSN: 1041-4347, 29(2), pp. 286-299, Feb 2017. (My contribution: 10%: I give advice to the paper.)
- [J25] [I] **Y. Fang***, **R. Cheng**, **S. Luo***, and **J. Hu***. *Effective Community Search for Large Attributed Graphs*. In Proceedings of the VLDB Endowment (**PVLDB**), 9(12), pp. 1233-1244, Aug 2016. Also presented in the Very Large Databases Conf. (**VLDB 2016**), New Delhi, India, Sep 5-9, 2016. Impact factor: 2.23 (RG), cited 64 times (My contribution: 40%: I am involved in problem definition, solution development, and paper writing.)
- [J26] [I] Z. Li, **Y. Fang***, Q. Liu, J. Cheng, **R. Cheng**, and J. C.S. Lui. *Walking in the Cloud: Parallel SimRank at Scale*. In the Proceedings of the VLDB Endowment (**PVLDB**), 9(1), ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2016**), New Delhi, India, Sep 5-9, 2016. Impact factor: 2.23 (RG), cited 26 times (My contribution: 20%: this is a joint work with Huawei Noah's Ark Lab Hong Kong, where my student Yixiang Fang did this work during his internship in Huawei. I am involved in the solution design and paper writing.)
- [J27] C. Dai, S. Nutanong, C.Y. Chow, and **R. Cheng**. *Entropy-based Scheduling Policy for Cross Aggregate Ranking Workloads*. In the IEEE Transactions on Services Computing (**IEEE TSC**), ISSN: 1939-1374, June 2016. (My contribution: 15%: This is a joint work with City University of Hong Kong. I participated in discussions and edited the paper.)
- [J28] [I] **Y. Fang***, **R. Cheng**, W. Tang, **S. Maniu***, and **X. Yang***. *Scalable Algorithms for Nearest-Neighbor Joins on Big Trajectory Data*. In the Transactions on Knowledge and Data Engineering (**IEEE TKDE**), pp. 785-800, ISSN: 1041-4347, 28(3), March 2016. Impact factor: 3.857, cited 30 times (My contribution: 40%: I am involved in the solution design and paper writing.)
- [J29] Z. Wang, B. Yao, **R. Cheng**, X. Gao, L. Zou, H. Guan, and M. Guo. *SMe: Explicit and Implicit Constrained-Space Probabilistic Threshold Range Queries for Moving Objects*. July 2015, ISSN 1384-6175, **Geoinformatica**. (My contribution: 15%: This is a joint work with Shanghai Jiaotong University. I am responsible for giving high-level ideas and editing the paper.)
- [J30] [I] **C. J. Zhu***, K. Y. Lam, **R. Cheng**, and C. K. Poon.^[SEP] *On Using Broadcast Index for Efficient Execution of Shortest Path Continuous Queries*. In Information Systems (**IS**), Volume 49, April 2015, pp. 142-162. (My contribution: 20%: This is a joint work with City University of Hong Kong. I am responsible for giving high-level ideas and editing the paper.)
- [J31] [I] **Y. Tang***, L. H. U, Y. Cai, N. Mamoulis, and **R. Cheng**.^[SEP] *Earth Mover's Distance based Similarity Search at Scale*. In Proceedings of the VLDB Endowment (**PVLDB**), 7(4), pp. 313-324, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2014**), Hangzhou, China, Sep 1-5, 2014. Acceptance rate: 20%, Impact factor: 2.23 (RG), cited 29 times. (My contribution: 15%: I give advice to the paper.)

- [J32] [I] **X. Xie***, M. L. Yiu, **R. Cheng**, and L. Hua. *Scalable Evaluation of Trajectory Queries over Imprecise Location Data*. In the Transactions on Knowledge and Data Engineering (**TKDE**), pp. 2029-2044, ISSN: 1041-4347, August 2014. (My contribution: 30%: I am involved in the design of the solution and write-up of the paper.)
- [J33] [I] **X. Xie***, **R. Cheng**, M. L. Yiu, **L. Sun***, and **J. Chen***. *UV-Diagram: A Voronoi Diagram for Uncertain Spatial Databases*. In the Very Large Databases Journal (**VLDBJ**), 22(3), pp. 319-344, June 2013. Impact factor: 1.973; cited 18 times (My contribution: 40%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J34] [I] **Y. Zhang*** and **R. Cheng**. *Probabilistic Filters: A Stream Protocol for Continuous Probabilistic Queries*. In Information Systems (**IS**), 38(1), pp. 132-154, March 2013. (My contribution: 50%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J35] [I] L. Wang, D. W. Cheung, **R. Cheng**, S. D. Lee, and **X. Yang***. *Efficient Mining of Frequent Itemsets on Large Uncertain Databases*. In the IEEE Transactions on Knowledge and Data Engineering (**IEEE TKDE**), 24(12), pp. 2170-2183, Dec 2012. Impact factor: 3.857; cited 88 times. (My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J36] [I] T. Bernecker, **R. Cheng**, D. Cheung, H. Kriegel, S. D. Lee, M. Renz, F. Verhein, L. Wang, and A. Zuefle. *Model-based Probabilistic Frequent Itemset Mining*. In the Knowledge and Information Systems Journal (**KAIS**), October 2013, Volume 37, Issue 1, pp 181-217, Springer. Impact factor: 2.397, cited 20 times. (Selected among *the best papers* in CIKM'10 conference in [C52] for journal extension.) (My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J37] [I] **J. Gong***, **R. Cheng**, and D. W. Cheung. *Efficient Management of Uncertainty in XML Schema Matching*. In the Very Large Databases Journal (**VLDBJ**). 21(3), pp. 385-409, Jun 2012. Impact factor: 1.973; cited 17 times. (My contribution: 40%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J38] [I] **L. Sun***, **R. Cheng**, **X. Li***, D. Cheung, and J. Han. *On Link-based Similarity Join*. In Proceedings of the VLDB Endowment (**PVLDB**), 4(11), pp. 714-725, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2011**), Seattle, Aug, 2011. Acceptance rate: 18.1% (100 out of 553 papers); Impact factor: 2.23 (RG), cited 31 times. (My contribution: 30%: I am involved in the problem definition, solution and experiment design, and writing of the paper.)
- [J39] [I] C. Ren, E. Lo, B. Kao, X. Zhu, and **R. Cheng**. *On Querying Historical Evolving Graph Sequences*. In Proceedings of the VLDB Endowment (**PVLDB**), 4(11), pp. 726-737, ISSN 2150-8097. Also presented in the Very Large Databases Conf. (**VLDB 2011**), Seattle, Aug, 2011. Acceptance rate: 18.1% (100 out of 553 papers). (My contribution: 20%: I am involved in the high-level design of the solution and writing of the paper.)
- [J40] [I] W. K. Ngai, B. Kao, **R. Cheng**, M. Chau, S. D. Lee, D. W. Cheung, and K. Y. Yip. *Metric and Trigonometric Pruning for Clustering of Uncertain Data in 2D Geometric Space*. In Information Systems (**IS**), 36(2), pp. 476-497, 2011. (My contribution: 20%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J41] [I] T. Farrell, K. Rothermel, and **R. Cheng**. *Processing Continuous Range Queries with Spatio-Temporal Tolerance*. In IEEE Transactions on Mobile Computing (**IEEE TMC**), 10(3), pp. 320-334, Mar 2011. Impact factor: 4.474; cited 20 times. (My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [J42] [I] **R. Cheng**, E. Lo, **X. Yang***, M. Luk, **X. Li***, and **X. Xie***. *Explore or Exploit? Effective Strategies for Disambiguating Large Databases*. In Very Large Databases Conf. (**VLDB 2010**), Singapore, Sep, 2010; also appeared in Volume 3 of the Journal "Proceedings of the VLDB Endowment". (**PVLDB**), ISSN 2150-8097. Acceptance rate: 18.4% (48 out of 261 papers) (My contribution: 60%: I am the first author, involved in the problem definition, solution design, and writing of the paper.)

- [J43] [I] **R. Cheng**, B. Kao, A. Kwan, S. Prabhakar and Y. Tu. *Filtering Data Streams for Entity-based Continuous Queries*. In IEEE Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Vol. 22, No. 2, pp. 234-248, Feb 2010. *Impact factor: 3.857; cited 15 times. (My contribution: 60%: I am involved in the design of the solution, experiment design, and writing of the paper.)*
- [J44] [I] **J. Chen***, **R. Cheng**, M. Mokbel, and C. Chow. *Scalable Processing of Snapshot and Continuous Nearest-Neighbor Queries over One-Dimensional Uncertain Data*. In Very Large Databases Journal (**VLDBJ**), Special Issue on Uncertain and Probabilistic Databases, Vol. 18, No. 5, pp. 1219-1240, Oct 2009. *Impact factor: 1.973; cited 28 times (Awarded the **Research Output Prize** in Department of Computer Science, Faculty of Engineering, HKU, 2010) (My contribution: 50%: I am involved in the design of the solution, experiment design, and writing of the paper.)*
- [J45] D. Lin, E. Bertino, **R. Cheng**, and S. Prabhakar. *Location Privacy in Moving-Object Environments*. In Transactions on Data Privacy: Foundations and Technologies (**TDP**), 2(1): 21-46 (April 2009). URL: <http://www.tdp.cat>. *(My contribution: 20%: I am involved in the design of the solution, experiment design, and writing of the paper.)*
- [J46] [I] **R. Cheng**, **J. Chen***, and **X. Xie***. *Cleaning Uncertain Data with Quality Guarantees*. In Very Large Databases Conf. (**VLDB 2008**), New Zealand, Aug 2008. *Acceptance rate: 16.8% (46 out of 273 papers). Also appeared in Volume 1 of the Journal "Proceedings of the VLDB Endowment" (PVLDB), ISSN 2150-8097, Impact factor: 2.23 (RG), cited 91 times (My contribution: 50%: I am involved in the problem definition, solution, experiment design, and writing of the paper.)*
- [J47] Y. Xia, **R. Cheng**, S. Prabhakar, S. Lei, and R. Shah. *Indexing Continuously Changing Data with Mean-Variance Tree*. In the Intl. Journal of High Performance Computing and Networking (**IJHPCN**): A Special Issue on Recent Advances in Collaborative Internet Computing, Vol. 5, No. 4, pp. 263-272, Inderscience Publishers, 27 Dec 2008. *(My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)*
- [J48] [I] Y. Tao, X. Xiao, and **R. Cheng**. *Range Search on Multidimensional Uncertain Data*. In ACM Transactions on Database Systems (**TODS**). 32(3):15, Aug 2007. *Impact factor: 1.900; cited 176 times. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [J49] [I] **R. Cheng**, K.Y. Lam, S. Prabhakar, and B. Liang. *An Efficient Location Update Mechanism for Continuous Queries over Moving Objects*. In Information Systems (**IS**), Vol. 32, No. 4, pp. 593-620, Jun 2007. URL: <http://dx.doi.org/10.1016/j.is.2006.03.002>. *Impact factor: 2.066; cited 22 times. (My contribution: 40%: I am the corresponding author, and am involved in solution design and writing of the paper.)*
- [J50] [I] **R. Cheng**, D. Kalashnikov, and S. Prabhakar. *Evaluation of Probabilistic Queries over Imprecise Data in Constantly-Evolving Environments*. In Information Systems (**IS**), Vol. 32, No. 1, pp. 104-130, Mar 2007. URL: <http://dx.doi.org/10.1016/j.is.2005.06.002>. *Impact factor: 2.066; cited 45 times. (My contribution: 70%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)*
- [J51] S. Han, E. Chan, **R. Cheng**, and K. Y. Lam. *A Statistics-Based Sensor Selection Scheme for Continuous Probabilistic Queries in Sensor Network*. In Real Time Systems Journal (**RTS**), Vol. 35, No. 1, pp. 33-58, Jan 2007. URL: <http://www.springerlink.com/content/4635361u56167401> *(My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)*
- [J52] [I] **R. Cheng**, D. Kalashnikov, and S. Prabhakar. *Querying Imprecise Data in Moving Object Environments*. In IEEE Transactions on Knowledge and Data Engineering (**IEEE TKDE**), Vol. 16, No. 9, pp. 1112-1127, Sep 2004. *Impact factor: 3.857; cited 579 times. (My contribution: 70%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)*
- [J53] [I] **R. Cheng** and S. Prabhakar. *Managing Uncertainty in Sensor Databases*. In Special Section on Sensor Network Technology and Sensor Data Management, **SIGMOD Record**, Vol.32, No.4, pp.41-46, Dec 2003.

Impact factor: 1.366; cited 93 times. (My contribution: 60%: I am the corresponding author, and involved in solution development and writing of the paper.)

- [J54] [I] B. Kao, K. Y. Lam, B. Adelberg, **R. Cheng**, and T. Lee. *Maintaining Temporal Consistency of Discrete Objects in Soft Real-Time Database Systems*. In IEEE Transactions on Computers (**IEEE TC**), Vol. 52, No. 3, pp. 373-389, 2003. *Impact factor: 3.131; cited 40 times. (My contribution: 30%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)*
- [J55] [I] K. Y. Lam, T. W. Kuo, B. Kao, T. Lee, and **R. Cheng**. *Evaluation of Concurrency Control Strategies for Mixed Soft Real-Time Database Systems*. In Information Systems Journal (**IS**), Vol. 27, No. 2, pp. 123-149, Elsevier Science, 2002. *Impact factor: 2.066; cited 47 times. (My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)*

Conference and Workshop Papers

* All articles below are international and have been externally refereed.

- [C1] **X. Li***, **R. Cheng**, **M. Najafi***, K. Chang, **X. Han**, and H. Cao. *M-Cypher: A GQL Framework Supporting Motifs, demonstrated by Covid-19 Knowledge Graph Analysis*. In the 29th ACM Intl. Conf. on Information and Knowledge Management (ACM CIKM 2020), online. *(My contribution: 30%: I am responsible for problem definition, system design, and writing of the paper.)*
- [C2] **C. Shan***, L. H. U., N. Mamoulis, and **R. Cheng**. *A Toolkit for Managing Multiple Crowdsourced Top-k Queries*. In the 29th ACM Intl. Conf. on Information and Knowledge Management (ACM CIKM 2020), online. *(My contribution: 20%: I am responsible for system design and writing of the paper.)*
- [C3] [I] **T. N. Chan***, **R. Cheng**, and M. L. Yiu. *QUAD: Quadratic-Bound-based Kernel Density Visualization*. In the ACM SIGMOD Conf. (**SIGMOD 2020**), Portland, OR, USA, Jun 2020. *(My contribution: 30%: I am responsible for problem definition, solution development, and writing of the paper.)*
- [C4] [I] **J. Yan***, O. Schulte, M. Zhang, J. Wang, and **R. Cheng**. *SCODED: Statistical Constraint Oriented Data Error Detection*. In the ACM SIGMOD Conf. (**SIGMOD 2020**), Portland, OR, USA, Jun 2020. *(My contribution: 20%: I am responsible for solution development and writing of the paper.)*
- [C5] [I] **C. Ma***, Y. Fang, **R. Cheng**, L. Lakshmanan, W. Zhang, and X. Lin. *Efficient Algorithms for Densest Subgraph Discovery on Large Directed Graphs*. In the ACM SIGMOD Conf. (**SIGMOD 2020**), Portland, OR, USA, Jun 2020. *(My contribution: 30%: I am responsible for solution development and writing of the paper.)*
- [C6] **C. Shan***, L. H. U., N. Mamoulis, **R. Cheng**, and X. Li. *A General Early-Stopping Module for Crowdsourced Ranking*. In the 25th Intl. Conf. on Database Systems for Advanced Applications (**DASFAA**), Jeju, South Korea, May 2020. *(My contribution: 20%: I helped in solution development and writing of the paper.)*
- [C7] [I] **C. Shan***, N. Mamoulis, **R. Cheng**, G. Li, X. Li, and Y. Qian. *An End-to-End Deep RL Framework for Task Arrangement in Crowdsourcing Platforms*. In the 36th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2020**), Dallas, Texas, Apr 2020. *(My contribution: 25%: I am responsible for solution development, and writing of the paper.)*
- [C8] **X. Han***, **T. Grubenmann**, **R. Cheng**, S. C. Wong, **X. Li***, and **W. Sun***. *Traffic Incident Detection: A Trajectory-based Approach (Short paper)*. In the 36th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2020**), Dallas, Texas, Apr 2020. *(My contribution: 30%: I am responsible for solution development, and writing of the paper.)*

- [C9] **B. Li***, **R. Cheng**, J. Hu, Y. Fang, M. Ou, R. Luo, K. Chang, and X. Lin. *MC-Explorer: Analyzing and Visualizing Motif-Cliques on Large Networks (Demo paper.)* In the 36th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2020**), Dallas, Texas, Apr 2020. (My contribution: 30%: I am responsible for demo design and development, and writing of the paper.)
- [C10] **[I] T. Grubenmann***, **R. Cheng**, and L. Lakshmanan. *TSA: A Truthful Mechanism for Social Advertising*. In the Web Search and Data Mining Conference (WSDM 2020), Houston, Texas, USA, Feb 2020. (My contribution: 30%: I am responsible for problem definition, solution development, and writing of the paper.)
- [C11] Y. Fang, X. Huang, L. Qin, Y. Zheng, W. Zhang, **R. Cheng**, and X. Lin. *A Survey of Community Search Over Big Graphs (Poster)*. In the Very Large Databases Conf. (**VLDB 2019**), Los Angeles, Aug 2019. (My contribution: 10%: I give advice to the organization of the paper.)
- [C12] W. Y. Szeto, R. Wong, **R. Cheng**, and W. Sun. *An artificial bee colony algorithm for optimizing ready-mixed concrete dispatching operation*. In 14th Intl. Congress on Logistics and Supply Chain Management Systems (**ICLS 2019**), Taipei, Aug 2019. (My contribution: 20%: I am responsible for solution development and writing of the paper.)
- [C13] J. Nasir, Y. H. Kuo, and **R. Cheng**. *Optimizing operators' and users' objectives in non-emergency patients transportation*. In 4th Intl. Conf. on Health Care Systems Engineering (**HCSE 2019**), Montreal, Canada, May 2019. (My contribution: 30%: I am responsible for solution and writing of the paper.)
- [C14] **Y. Fang***, Z. Wang, **R. Cheng**, H. Wang, and **J. Hu***. *Effective and Efficient Community Search over Large Directed Graphs (Extended Abstract)*. In the 35th IEEE Intl. Conf. on Data Engineering (**TKDE poster, IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)
- [C15] **Y. Chen***, **Y. Fang***, **R. Cheng**, Y. Li, X. Chen, and J. Zhang. *Exploring Communities in Large Profiled Graphs (Extended Abstract)*. In the 35th IEEE Intl. Conf. on Data Engineering (**TKDE poster, IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)
- [C16] A. Zhou, Y. Xiao, B. He, S. Ibrahim, and **R. Cheng**. *Incorporating Probabilistic Optimizations for Resource Provisioning of Data Processing Workflows*. In Proc. 48th Intl. Conf. on Parallel Processing, (**ICPP**), Aug 2019: 6:10-6:10. (My contribution: 10%: I give advice to the paper.)
- [C17] **[I] J. Hu***, **R. Cheng**, K. C. C. Chang, A. Sankar, **Y. Fang***, and B. Y. H. Lam. *Discovering Motif Cliques in Large Heterogeneous Information Networks*. In the 35th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)
- [C18] **[I] S. Luo***, B. Kao, X. Wu, and **R. Cheng**. *MPR – A partitioning-republication framework for multi-processing kNN Search on Road Networks*. In the 35th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 15%: I am responsible for experiment design and implementation, and writing of the paper.)
- [C19] **[I] D. He**, S. Wang, X. Zhou, and **R. Cheng**. *An Efficient Framework for Correctness-Aware kNN Queries on Road Networks*. In the 35th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 15%: I am responsible for experiment design and implementation, and writing of the paper.)
- [C20] **Y. Fang***, Z. Wang, **R. Cheng**, H. Wang, and **J. Hu***. *Effective and Efficient Community Search over Large Directed Graphs (Extended Abstract)*. In the 35th IEEE Intl. Conf. on Data Engineering (**TKDE poster, IEEE ICDE 2019**), Macau SAR, China, Apr 2019. (My contribution: 15%: I am responsible for experiment design and implementation, and writing of the paper.)

- [C21] **Y. Chen***, **Y. Fang***, **R. Cheng**, Y. Li, X. Chen, and J. Zhang. *Exploring Communities in Large Profiled Graphs* (Extended Abstract). In the 35th IEEE Intl. Conf. on Data Engineering (**TKDE poster, IEEE ICDE 2019**), Macau SAR, China, Apr 2019.
- [C22] **[I] Z. Zhu***, **R. Cheng**, **L. Do***, and **Z. Huang***. *Evaluating Top-k Meta Path Queries on Large Heterogeneous Information Networks*. In the IEEE Intl. Conf. on Data Mining (**IEEE ICDM 2018**), Singapore, Nov, 2018. *Acceptance rate: 20%. (My contribution: 15%: I am responsible for experiment design and implementation, and writing of the paper.)*
- [C23] **H. Sun***, **R. Cheng**, **X. Xiao**, **J. Yan***, **Y. Zhen***, and **Y. Qian**. *Maximizing Social Influence for the Awareness Threshold Model*. In the Database Systems for Advanced Applications – 23rd Intl. Conf (DASFAA), pp, 491-510, May 2018.
- [C24] **[I] Y. Fang***, **R. Cheng**, G. Cong, N. Mamoulis, and Y. Li. *On Spatial Pattern Matching*. In the 34th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2018**), Paris, France, Apr 2018. *(My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)*
- [C25] **Y. Fang***, **R. Cheng**, **J. Wang***, **Budiman***, G. Cong, and N. Mamoulis. *SpaceKey: Exploring Patterns in Spatial Databases (Demo)*. In the 34th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2018**), Paris, France, Apr 2018. *(My contribution: 30%: I am responsible for experiment design and implementation, and writing of the paper.)*
- [C26] **[I] C. Shan***, N. Mamoulis, G. Li, **R. Cheng**, **Z. Huang***, and **Y. Zheng***. *T-Crowd: Effective Crowdsourcing for Tabula Data*. In the 34th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2018**), Paris, France, Apr 2018. *(My contribution: 15%: I am responsible for experiment design and implementation, and writing of the paper.)*
- [C27] **[I] X. Li***, **R. Cheng**, **Y. Fang***, **J. Hu***, and S. Maniu. *Scalable Evaluation of k-NN Queries on Large Uncertain Graphs*. In the 21st Intl. Conf. on Extending Database Technology (**EDBT 2018**), Vienna, Austria, Mar 2018. *(My contribution: 40%: I am responsible for experiment design and implementation, and writing of the paper.)*
- [C28] **[I] J. Hu***, **R. Cheng**, **Z. Huang***, **Y. Fang***, and **S. Luo***. *On Embedding Uncertain Graphs*. In the 26th ACM Conf. on Information and Knowledge Management (**ACM CIKM 2017**), Singapore, Nov 6 – Nov 10, 2017. *Acceptance rate: 21% (171/820). (My contribution: 40%: I am involved in problem definition, solution development, and paper writing.)*
- [C29] **[I] S. Luo***, **J. Hu***, **R. Cheng**, and B. Kao. *SEQ: Example-based Query for Spatial Objects*. (Short Paper). In the 26th ACM Conf. on Information and Knowledge Management (**ACM CIKM 2017**), Singapore, Nov 6 – Nov 10, 2017. *Acceptance rate: 30% (119/398). (My contribution: 30%: I am involved in problem definition, solution development, and paper writing.)*
- [C30] **Y. Xu***, **R. Cheng**, and **Y. Zheng***. *Reliable Retrieval of Top-k Tags*. In the 18th Intl. Conf. on Web Information Systems Engineering (**WISE**), Moscow, Russia, October 2017. *Acceptance rate: 25% (49/196). (My contribution: 40%: I am involved in problem definition, solution development, and paper writing.)*
- [C31] **[I] J. Hu***, X. Wu, **R. Cheng**, **S. Luo***, and **Y. Fang***. *Querying Minimal Steiner Maximum-Connected Subgraphs in Large Graphs*. In **CIKM 2016**, pp. 1241-1250, Indianapolis, October 2016. *(My contribution: 30%: I am involved in problem definition, solution development, and paper writing.)*
- [C32] **[I] Z. Huang***, B. Cautis, **R. Cheng**, and **Y. Zheng***. *KB-Enabled Query Recommendation for Long-Tail Queries*. In **CIKM 2016**, Indianapolis, October 2016, pp. 2107-2112. *(My contribution: 30%: I am involved in problem definition, solution development, and paper writing.)*
- [C33] **[I] Z. Huang***, **Y. Zheng***, **R. Cheng**, Y. Sun, N. Mamoulis, and X. Li. *Meta Structure: Computing Relevance in Large Heterogeneous Information Networks*. In the 22nd ACM SIGKDD Intl. Conf. on Knowledge Discovery

and Data Mining (**KDD 2016**), San Francisco, US, August 2016, *cited 63 times (My contribution: 30%: I am involved in problem definition, solution development, and paper writing.)*

- [C34] **[I]** H. Hu, **Y. Zheng***, Z. Bao, G. Li, J. Feng, and **R. Cheng**. *Crowdsourced POI Labelling: Location-Aware Result Inference and Task Assignment*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2016**), Helsinki, Finland, May 2016, pp. 61-72 (*My contribution: 15%: This is a collaboration with Tsinghua University. I am involved in problem definition, solution development, and paper writing.*)
- [C35] **Y. Fang***, **R. Cheng**, W. Tang, **S. Maniu***, and **X. Yang***. *Scalable Algorithms for Nearest-Neighbor Joins on Big Trajectory Data*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2016**), *TKDE Extended Abstract*, Helsinki, Finland, May 2016. (*My contribution: 40%: I am involved in problem definition, solution development, and paper writing.*)
- [C36] Y. Sun, **H. Sun***, and **R. Cheng**. *Fast and Semantic Measurements on Collaborative Tagging Quality*. In the Advances in Knowledge Discovery and Data Mining – 20th Pacific-Asia Conference (**PAKDD 2016**), New Zealand, April 2016, pp. 363-375. (*My contribution: 20%: I am involved in problem definition, solution development, and paper writing.*)
- [C37] Z. Li, **Y. Fang***, Q. Liu, J. Cheng, **R. Cheng**, and J. C.S. Lui. *PASCO: Parallel SimRank Computation at Scale (Poster)*. In the ACM Symposium on Cloud Computing (**SoCC 2015**), Hawaii, August 27-29, 2015. (*My contribution: 20%; this is a joint work with Huawei Noah's Ark Lab Hong Kong, where my student Yixiang Fang did this work during his internship in Huawei. I am involved in the solution design and paper writing.*)
- [C38] **[I]** **S. Lei***, **S. Maniu***, **L. Mo***, **R. Cheng**, and P. Senellart. *Online Influence Maximization*. In the 21th ACM SIGKDD Intl. Conf. on Knowledge Discovery and Data Mining (**KDD 2015**), Sydney, Australia, August 2015. *Acceptance rate: 19.4% (159 out of 819 papers), cited 79 times (My contribution: 30%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)*
- [C39] **J. Hu***, **R. Cheng**, D. Wu, and B. Jin. *Efficient Top-k Subscription Matching for Location-Aware Publish/Subscribe*. In the 14th Intl. Symposium on Spatial and Temporal Databases (**SSTD 2015**), Seoul, South Korea, August 2015. *Acceptance rate: 37.5% (24 out of 64 papers)(My contribution: 30%: I am involved in the solution design and paper writing.)*
- [C40] T. Emrich, K. A. Schmid, A. Zuefle, M. Renz, and **R. Cheng**. *Uncertain Voronoi Cell Computation based on Space Decomposition*. In the 14th Intl. Symposium on Spatial and Temporal Databases (**SSTD 2015**), Seoul, South Korea, August 2015. (One of the selected best papers to be extended to be published in [32].) *Acceptance rate: 37.5% (24 out of 64 papers) (My contribution: 20%: this is a joint work with University of Munich. I am involved in the solution design and paper writing.)*
- [C41] **[I]** **Y. Zheng***, J. Wang, G. Li, **R. Cheng**, and J. Feng. *QASCA: A Quality-Aware Task Assignment System for Crowdsourcing Applications*. In ACM SIGMOD Intl. Conf. on Management of Data (**SIGMOD 2015**), Melbourne, Victoria, Australia, May 2015. *Acceptance rate: 25.2% (106 out of 415 papers), cited 124 times. (My contribution: 20%: this is a joint work with Tsinghua University, where my student Yudian Zheng did this work during his internship in Tsinghua. I am involved in the solution design and paper writing.)*
- [C42] **[I]** **C. Meng***, **R. Cheng**, **S. Maniu***, P. Senellart, and **W. Zhang***. *Discovering Meta-Paths in Large Heterogeneous Information Networks*. In the 24th Intl. World Wide Web Conf. (**WWW 2015**), Florence, Italy, May 2015. *Acceptance rate: 14.1% (131 out of 929 papers), cited 61 times. (My contribution: 25%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C43] **[I]** **Y. Zheng***, **R. Cheng**, **L. Mo***, and **S. Maniu***. *On Optimality of Jury Selection in Crowdsourcing*. In the 18th Intl. Conf. on Extending Database Technology (**EDBT 2015**), Brussels, Belgium, Mar 2015. *Acceptance rate: 25.5% (47 out of 184 papers)(My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*

- [C44] **S. Maniu***, **R. Cheng**, and P. Senellart. *ProbTree: A Query-Efficient Representation of Probabilistic Graphs*. In the 1st Intl. Workshop on Big Uncertain Data (**BUDA**), associated with **SIGMOD**, Utah, US, Jun 2014. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C45] **[I] W. Zhang***, **R. Cheng**, and B. Kao. *Evaluating Multi-way Joins over Discounted Hitting Time*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2014**), Chicago, US, Apr 2014. Acceptance rate: 20.0% (89 out of 446 papers). (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C46] **S. Lei***, **X. Yang***, **L. Mo***, **S. Maniu***, and **R. Cheng**. *iTag: Incentive-Based Tagging*. Demo paper, in Intl. Conf. on Data Engineering (**IEEE ICDE 2014**), Chicago, US, Apr 2014 (My contribution: 20%: I am involved in solution design, and writing of the paper.)
- [C47] **[I] C. Ren**, **L. Mo***, B. Kao, **R. Cheng**, and **D. Cheung**. *CLUDE: An Efficient Algorithm for LU Decomposition over a Sequence of Evolving Graphs*. In the 17th Intl. Conf. on Extending Database Technology (**EDBT 2014**), Athens, Greece, Mar 2014. Acceptance rate: 20%. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C48] Y. Sun, H. Xu, and **R. Cheng**. *Privacy Preserving Path Recommendation for Moving User on Location Based Service*. In the 10th IEEE Intl. Conference on Ubiquitous Intelligence and Computing (**UIC 2013**), Italy, Dec 2013 (My contribution: 10%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C49] **[I] L. Mo***, **R. Cheng**, B. Kao, **X. Yang***, C. Ren, **S. Lei***, and **E. Lo***. *Optimizing Plurality for Human Intelligence Tasks*. In the 22nd ACM Conf. on Information and Knowledge Management (**ACM CIKM 2013**), San Francisco, Oct 27 – Nov 1, 2013. Acceptance rate: 16.9% (143 out of 848 papers) (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C50] **[I] Z. He**, P. Wong, B. Kao, E. Lo, and **R. Cheng***. *Fast Evaluation of Iceberg Pattern-Based Aggregate Queries*. In the 22nd ACM Conf. on Information and Knowledge Management (**ACM CIKM 2013**), San Francisco, Oct 27 – Nov 1, 2013. Acceptance rate: 16.9% (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C51] **[I] X. Yang***, **R. Cheng**, **L. Mo***, B. Kao, and D. Cheung. *On Incentive-based Tagging*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2013**), Brisbane, Apr 2013. Acceptance rate: 19.6% (88 out of 450 papers) (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C52] **[I] L. Mo***, **R. Cheng**, **X. Li***, D. Cheung, and **X. Yang***. *Cleaning Uncertain Data for Top-k Queries*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2013**), Brisbane, Apr 2013. Acceptance rate: 19.6% (88 out of 450 papers) (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C53] **[I] P. Zhang***, **R. Cheng**, N. Mamoulis, M. Renz, A. Zuefle, **Y. Tang***, and T. Emrich. *Voronoi-based Nearest Neighbor Search for Multi-Dimensional Uncertain Databases*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2013**), Brisbane, Apr 2013. Acceptance rate: 19.6% (88 out of 450 papers). (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C54] **[I] Y. Jin***, **R. Cheng**, B. Kao, K. Y. Lam, and **Y. Zhang***. *A Filter-based Protocol for Continuous Queries over Imprecise Location Data*. In the 21st ACM Conf. on Information and Knowledge Management (**ACM CIKM 2012**), Hawaii, Oct 2012. Acceptance rate: 13.4%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C55] **[I] R. Li**, B. Kao, B. Bi, **R. Cheng**, and E. Lo. *DQR: A Probabilistic Approach to Diversified Query Recommendation*. In the 21st ACM Conf. on Information and Knowledge Management (**ACM CIKM 2012**), Hawaii, Oct 2012. Acceptance rate: 13.4%. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)

- [C56] R. Tang, **R. Cheng**, H. Wu, and S. Bressan. *A Framework for Conditioning Uncertain Relational Data*. In the 23rd Conf. on Database and Expert Systems Applications (**DEXA 2012**), Austria, September 2012. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C57] **X. Xie***, **R. Cheng**, and M. L. Yiu. *Evaluating Trajectory Queries Over Imprecise Location Data*. In the 24th Intl. Conf. on Scientific and Statistical Database Management (**SSDBM 2012**), Greece, June 2012. Acceptance rate: 51.6%. (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C58] **[I] J. Gong***, **R. Cheng**, D. W. Cheung, and J. Cheng. *Evaluating Probabilistic Queries over Uncertain Matching*. In the IEEE Intl. Conf. Data Engineering (**IEEE ICDE 2012**), Washington D.C., April 2012. Acceptance rate: 17%. (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C59] **[I] C. K. Chui**, **R. Cheng**, B. Kao, and E. Lo. *I/O Efficient Algorithms for Evaluating Pattern-based Aggregate Queries in a Sequence OLAP System*. In the 20th ACM Conf. on Information and Knowledge Management (**ACM CIKM 2011**), Glasgow, Oct 2011. Acceptance rate: 15%. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C60] **[I] B. Bi**, S. D. Lee, B. Kao, and **R. Cheng**. *CubeLSI: An Effective and Efficient Method for Searching Resources in Social Tagging Systems*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2011**), Hannover, Germany, Apr, 2011. Acceptance rate: 19.6% (88 out of 450 papers). (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C61] **[I] L. Sun***, **R. Cheng**, D. W. Cheung, and **J. Cheng***. *Mining Uncertain Data with Probabilistic Guarantees*. In the 16th ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (**ACM SIGKDD 2010**), Washington D.C., USA, Jul, 2010 (Full paper). Acceptance rate: 17%; cited 153 times. (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C62] **[I] L. Wang**, D. W. Cheung, **R. Cheng**, and S. D. Lee. *Accelerating Probabilistic Frequent Itemset Mining: A Model-Based Approach*. In the ACM 19th Conf. on Information and Knowledge Management (**ACM CIKM 2010**), Toronto, Canada, Oct 2010. **Selected as one of the best papers in CIKM'10** for extension in [J33]. Acceptance rate: 13.4%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C63] Y. Zhang*, **R. Cheng**, and **J. Chen***. *Evaluating Continuous Probabilistic Queries over Imprecise Sensor Data*. In the Database Systems for Advanced Applications (**DASFAA**), Apr, 2010 (Full paper). Acceptance rate: 23.2%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C64] **J. Cheng***, J. X. Yu, and **R. Cheng**. *On-Line Preferential Nearest Neighbor Browsing in Large Attributed Graphs (Invited paper)*, 1st Intl. Workshop on Graph Data Management: Techniques and Applications (**GDM 2010**), associated with **DASFAA**, Tsukuba, Japan, Apr 2010. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C65] **[I] R. Cheng**, **X. Xie***, M. L. Yiu, **J. Chen***, and **L. Sun***. *UV-diagram: A Voronoi Diagram for Uncertain Data*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2010**), Long Beach, USA, Mar, 2010 (Full paper). Acceptance rate: 12.5%, cited 53 times. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)
- [C66] **[I] R. Cheng**, **J. Gong***, and D. Cheung. *Managing Uncertainty of XML Schema Matching*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2010**), Long Beach, USA, Mar, 2010 (Full paper). Acceptance rate: 12.5%. (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)

- [C67] **[I]** J. Ren, S. D. Lee, X. Chen, B. Kao, **R. Cheng**, and D. Cheung. *Naïve Bayes Classification of Uncertain Data*. In the IEEE Intl. Conf. on Data Mining (**IEEE ICDM 2009**), Miami, USA, Dec, 2009. *Acceptance rate: 17.8%. (My contribution: 20%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C68] **[I]** Z. Zhang, **R. Cheng**, D. Papadias, and A. Tung. *Minimizing the Communication Cost for Continuous Skyline Maintenance*. In Proc. ACM Conf. on Management of Data (**SIGMOD 2009**), Providence, RI, USA, July 2009. *Acceptance rate: 15.9%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C69] **[I]** **R. Cheng**, L. Chen, **J. Chen***, and **X. Xie***. *Evaluating Probability Threshold k -Nearest-Neighbor Queries over Uncertain Data*. In the 12th Intl. Conf. on Extending Database Technology (**EDBT 2009**), St. Petersburg, Russia, Mar 2009. *Acceptance rate: 32.5%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C70] **R. Cheng**. *Querying and Cleaning Uncertain Data (Invited Paper)*. In the 1st Intl. Workshop on Quality of Context (**QuaCon**), LNCS, Springer, Stuttgart, Germany, June 2009, *cited 8 times*.
- [C71] **J. Chen***, **R. Cheng**, **Y. Zhang**, and **J. Jian**. *A Probabilistic Filter Protocol for Continuous Queries*. In the 1st Intl. Workshop on Quality of Context (**QuaCon**), LNCS, Springer, Stuttgart, Germany, June 2009. *(My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C72] D. Lin. E. Bertino, **R. Cheng**, and S. Prabhakar. *Position Transformation: A Location Privacy Protection Method for Moving Objects*. In SIGSPATIAL ACM GIS 2008 Intl. Workshop on Security and Privacy in GIS and LBS (**SPRINGL 2008**), Irvine, CA, USA, November 2008. *(My contribution: 25%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C73] **J. Chen*** and **R. Cheng**. *Quality-Aware Probing of Uncertain Data with Resource Constraints*. In 20th Intl. Conf. on Scientific and Statistical Database Management (**SSDBM 2008**), Hong Kong, Jul 2008. Lecture Notes in Computer Science 5069, pp. 491-408, *Acceptance rate: 34.5%. (My contribution: 50%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C74] **[I]** **R. Cheng**, **J. Chen***, M. Mokbel, and C. Chow. *Probabilistic Verifiers: Evaluating Constrained Probabilistic Nearest-Neighbor Queries over Uncertain Data*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2008**), Cancun, Mexico, Apr, 2008 (Full paper, full talk). *Acceptance rate: 12.1%; cited 182 times. (My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C75] **[I]** S. Singh, R. Shah, S. Prabhakar, S. Hambrusch, C. Mayfield, J. Neville, and **R. Cheng**. *Database Support for Probabilistic Attributes and Tuples*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2008**), Cancun, Mexico, Apr, 2008 (Full paper, short talk). *Acceptance rate: 7.1%. (My contribution: 13%: I am involved in the solution design and writing of the paper.)*
- [C76] **R. Cheng**, D. Yau, and **J. Fu***. *Packet Cloaking: Protecting Receiver Privacy Against Traffic Analysis*. In the 3rd Workshop on Secure Network Protocols (**NPSec**), with the 15th IEEE Intl. Conf. on Network Protocols (**IEEE ICNP 2007**), Beijing, China, Oct 2007. *(My contribution: 40%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C77] S. Lee, B. Kao, and **R. Cheng**. *Reducing UK-means to K-means*. In the 1st Workshop on Data Mining of Uncertain Data (**DUNE**), co-located with the IEEE Conf. on Data Mining (**IEEE ICDM 2007**), USA, Oct, 2007 *(My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*
- [C78] T. Farrell, **R. Cheng**, and K. Rothermel. *Energy-Efficient Monitoring of Mobile Objects with Uncertainty-Aware Tolerances*. In the 11th Intl. Database Engineering & Applications Symposium (**IDEAS 2007**), Banff, Canada, Sept, 2007. *Acceptance rate: 31.5%. (My contribution: 30%: I am involved in the problem definition, solution design, and writing of the paper.)*

- [C79] Y. Liu and **R. Cheng**. *Intelligent Tutoring System Based on Semantic Multimedia Browsing and Retrieval*. In the 5th Intl. Conf. on Intelligent Multimedia & Ambient Intelligence (**IMAI 2007**), Information Sciences, 10th Joint Conference, Salt Lake City, Utah, USA, July 2007. (My contribution: 20%: I am involved in the solution design and writing of the paper.)
- [C80] **[I] J. Chen*** and **R. Cheng**. *Efficient Evaluation of Imprecise Location-Dependent Queries*. In the IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2007**), Istanbul, Turkey, Apr, 2007. Acceptance rate: 18.5%; cited 140 times. (My contribution: 50%: I am involved in the problem definition, solution design, experiment design, and writing of the paper.)
- [C81] **[I] J. Ngai**, B. Kao, C. Chui, **R. Cheng**, M. Chau, and K. Yip. *Efficient Clustering of Uncertain Data*. In the IEEE Intl. Conf. on Data Mining (**IEEE ICDM 2006**), Hong Kong, Dec, 2006. Acceptance rate: 10%; cited 304 times. (My contribution: 15%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [C82] **[I] R. Cheng**, S. Singh, S. Prabhakar, R. Shah, J. Vitter, and Y. Xia. *Efficient Join Processing over Uncertain Data*. In the ACM 15th Conf. on Information and Knowledge Management (**ACM CIKM 2006**), Arlington, USA, Nov 2006. Acceptance rate: 15%; cited 113 times. (My contribution: 60%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C83] **[I] R. Cheng**, Y. Zhang, E. Bertino, and S. Prabhakar. *Preserving User Location Privacy in Mobile Data Management Infrastructures*. In the Lecture Notes in Computer Science (LNCS), Privacy Enhancing Technology Workshop (**PET 2006**), Cambridge, UK, June 2006, pp. 393-412. Acceptance rate: 26%; cited 350 times. (My contribution: 50%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [C84] **[I] M. Chau**, **R. Cheng**, B. Kao, and J. Ng. *Uncertain Data Mining: An Example in Clustering Location Data*. In the Methodologies for Knowledge Discovery and Data Mining, Pacific-Asia Conference (**PAKDD 2006**), Singapore, April 2006, pp. 199-204. Acceptance rate: 13.4%; cited 210 times. (My contribution: 30%: I am involved in the design of the solution, experiment design, and writing of the paper.)
- [C85] M. Chau, **R. Cheng**, and B. Kao. *Uncertain Data Mining: A New Research Direction*. Invited Paper, in the Workshop on the Sciences of The Artificial (**WSA**) 2005, National Dong Hwa University, Taiwan, Dec 2005. (My contribution: 40%: I am involved in the writing of the paper.)
- [C86] **[I] R. Cheng**, B. Kao, S. Prabhakar, A. Kwan, and Y. Tu. *Adaptive Stream Filters for Entity-based Queries with Non-value Tolerance*. In Very Large Databases Conf. (**VLDB 2005**), Norway, Aug 2005, pp. 37-48. Acceptance rate: 16.5% (53 out of 322 papers); cited 56 times. (My contribution: 60%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C87] **[I] Y. Tao**, **R. Cheng**, X. Xiao, W. Ngai, B. Kao, and S. Prabhakar. *Indexing Multi-Dimensional Uncertain Data with Arbitrary Probability Density Functions*. In Very Large Databases Conf. (**VLDB 2005**), Norway, Aug 2005, pp. 922-933. Acceptance rate: 16.5% (53 out of 322 papers); cited 358 times. (My contribution: 30%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C88] **[I] R. Cheng**, S. Singh, and S. Prabhakar. *U-DBMS: A Database System for Managing Constantly-Evolving Data (Software Demonstration)*. In Very Large Databases Conf. (**VLDB 2005**), Norway, Aug 2005, pp.1271-1274. Acceptance rate: 16.5% (53 out of 322 papers); cited 131 times. (My contribution: 40%: I am involved in the design of the solution, system design and implementation, and writing of the paper.)
- [C89] S. Han, E. Chan, **R. Cheng**, and K.Y. Lam. *A Statistics-Based Sensor Selection Scheme for Continuous Probabilistic Queries in Sensor Networks*. In 11th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (**RTCSA 2005**), Hong Kong, Aug 2005, pp. 331-336. Acceptance rate:

33.3%. (My contribution: 20%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)

- [C90] [I] **R. Cheng**, Y. Xia, S. Prabhakar, and R. Shah. *Change Tolerant Indexing on Constantly Evolving Data*. In Intl. Conf. on Data Engineering (**IEEE ICDE 2005**), Tokyo, Japan, Apr 2005. Acceptance rate: 12.9%, 67/521. (My contribution: 60%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C91] Y. Xia, S. Prabhakar, S. Lei, **R. Cheng**, and R. Shah. *Indexing Continuously Changing Data with Mean-Variance Tree*. In the 20th Annual ACM Symposium on Applied Computing (**ACM SAC 2005**), Mar 2005. Acceptance rate: 30%. (My contribution: 20%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C92] K. Y. Lam, **R. Cheng**, B. Liang, and J. Chau. *Sensor Node Selection for Execution of Continuous Probabilistic Queries in Wireless Sensor Networks*. In ACM 2nd Intl. Workshop on Video Surveillance and Sensor Networks (**ACM VSSN 2004**), in conjunction with 12th ACM Intl. Conf. on Multimedia, pp. 63-71, New York, Oct 2004. (My contribution: 40%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C93] [I] **R. Cheng**, Y. Xia, S. Prabhakar, R. Shah, and J. S. Vitter. *Efficient Indexing Methods for Probabilistic Threshold Queries over Uncertain Data*. In Very Large Databases Conf. (**VLDB 2004**), pp. 876-887, Toronto, Canada, Sep 2004. Acceptance rate: 20.2% (55 out of 272 papers); cited 343 times. (My contribution: 50%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C94] **R. Cheng** and S. Prabhakar. *Using Uncertainty to Provide Privacy-Preserving and High-Quality Location-Based Service*. In the **Mobile HCI 2004** workshop on Location Systems Privacy and Control, Glasgow, Sep 2004. (My contribution: 70%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C95] [I] **R. Cheng**, D. Kalashnikov and S. Prabhakar. *Evaluating Probabilistic Queries over Imprecise Data*. In Proc. of the ACM Special Interest Group on Management of Data (**ACM SIGMOD 2003**), pp. 551-562, June 2003. Acceptance rate: 15.2%, 52/342; cited 750 times. (My contribution: 60%: I am involved in the problem definition, design of the solution, experiment design and implementation, and writing of the paper.)
- [C96] [I] **R. Cheng**, S. Prabhakar, and D. Kalashnikov. *Querying Imprecise Data in Moving Object Environments*. In Proc. of the Intl. Conf. on Data Engineering (**IEEE ICDE 2003**), pp. 723-725, Bangalore, India, March 2003. Acceptance rate: 13.5%; cited 8 times. (My contribution: 70%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C97] **R. Cheng**. *Updates and View Maintenance in Soft Real-Time Database Systems*. In the 2nd ACM Hong Kong Postgraduate Research Day (**Best Paper Award**), University of Hong Kong, 1999.
- [C98] [I] B. Kao, K.Y. Lam, B. Adelberg, **R. Cheng** and T. Lee. *Updates and View Maintenance in Soft Real-Time Database Systems*. In the Intl. Conf. on Information and Knowledge Management (**ACM CIKM 1999**), pp. 300-307, Kansas City, Missouri, USA, Nov 1999. Acceptance rate: 39%; cited 24 times. (My contribution: 30%: I am involved in the design of the solution, experiment design and implementation, and writing of the paper.)
- [C99] C. Yip, K. Loo, B. Kao, D. Cheung, and **R. Cheng**. *LGen - A Lattice-Based Candidate Set Generation Algorithm for I/O Efficient Association Rule Mining*. In Methodologies for Knowledge Discovery and Data Mining, Third Pacific-Asia Conference (**PAKDD 1999**), pp. 54-63, Beijing, Apr 1999. Acceptance Rate: 18.3% (My contribution: 20%: I am involved in the experiment design and implementation, and writing of the paper.)

Scholarly Books, Monographs, and Chapters

- [B1] J. Nasir, Y.-H. Kuo, and **R. Cheng**. Optimizing Operator's and Users' Objectives in Non-emergency Patients Transportation. In: Bélanger V., Lahrichi N., Lanzarone E., Yalçındağ S. (eds) Health Care Systems Engineering. HCSE 2019. Springer Proceedings in Mathematics & Statistics, vol 316. Springer, Cham.
- [B2] **R. Cheng**. *Uncertain Spatial Data Management*. In the Encyclopedia of Database Systems, 2nd edition, L. Liu and T. Ozsü (eds.), Springer New York, pp. 1-6, 2017 (online). ISBN: 978-1-4899-7993-3. (*My contribution: 100%*)
- [B3] **R. Cheng** and J. Chen. *Probabilistic Spatial Queries*. In the Encyclopedia of Database Systems, 2nd edition, L. Liu and T. Ozsü (eds.), Springer New York, pp. 1-6, 2017 (online). ISBN: 978-1-4899-7993-3. (*My contribution: 70%: I am the corresponding author, and I am responsible for writing 70% of the chapter.*)
- [B4] S. Prabhakar and **R. Cheng**. *Indexing Uncertain Data*. In the Encyclopedia of Database Systems, 2nd edition, L. Liu and T. Ozsü (eds.), Springer New York, pp. 1-6, 2017 (online). ISBN: 978-1-4899-7993-3. (*My contribution: 50%: I am responsible for writing 50% of the chapter.*)
- [B5] S. Prabhakar and **R. Cheng**. *Data Uncertainty Management in Sensor Networks*. In the Encyclopedia of Database Systems, 2nd edition, L. Liu and T. Ozsü (eds.), Springer New York, pp. 1-6, 2017 (online). ISBN: 978-1-4899-7993-3. (*My contribution: 50%: I am responsible for writing 50% of the chapter.*)
- [B6] **R. Cheng**. *Spatial Data, Indexing Techniques*. In the Encyclopedia of Geographical Information Science, 2nd edition, S. Shekhar, H. Xiong, and X. Zhou (eds.), Springer, 2017, pp. 1992-2002. ISBN: 978-3-319-17884-4. (*My contribution: 100%.*)
- [B7] **R. Cheng**, **Y. Fang***, and M. Renz. *Uncertain Data Classification*. In Data Classification: Algorithms and Applications, C. C. Aggarwal (eds.), Chapman & Hall / CRC Data Mining and Knowledge Discovery Series, May 2014, pp. 417-443. ISBN: 978-1466586741. (*My contribution: 60%: I am the corresponding author, and I am responsible for writing 60% of the chapter.*)
- [B8] **R. Cheng**. *Managing Quality of Probabilistic Databases*. In the Handbook on Research and Practice in Data Quality, S. Sadiq (eds.), Springer, 2013, pp. 271-291. ISBN: 978-3-642-36256-9.
- [B9] **R. Cheng** and **J. Chen***. *Probabilistic Spatial Queries*. In the Encyclopedia of Database Systems, L. Liu and T. Ozsü (eds.), Springer-Verlag, pp. 2160-2165, Sep 2009, ISBN: 978-0-387-35544-3. (*My contribution: 60%: I am the corresponding author, and I am responsible for writing at least 60% of the chapter.*)
- [B10] S. Prabhakar and **R. Cheng**. *Data Uncertainty Management in Sensor Networks*. In the Encyclopedia of Database Systems, L. Liu and T. Ozsü (eds.), Springer-Verlag, pp. 647-651, Sep 2009. ISBN: 978-0-387-35544-3 (peer-reviewed). (*My contribution: 50%: I am responsible for writing and editing the chapter.*)
- [B11] **R. Cheng**. *Spatial Data, Indexing Techniques*. In the Encyclopedia of Geographical Information Science, S. Shekhar and H. Xiong (eds.), Springer, pp. 1078-1086, 2008. ISBN: 978-0-387-30858-6.
- [B12] **R. Cheng**, E. Chan and K. Y. Lam. *Quality Assurance of Probabilistic Queries*. In Sensor Network and Configuration: Fundamentals, Techniques, Platforms, and Experiments, edited by N. Mahalik, Springer-Verlag, Germany, 2007, XX, 510 p., 205 illus., Hardcover. ISBN: 978-3-540-37364-3. (*My contribution: 50%: I am the corresponding author, and I am responsible for writing 50% of the chapter.*)
- [B13] **R. Cheng** and S. Prabhakar. *Sensors, Uncertainty Models, and Probabilistic Queries*. In Encyclopedia of Database Technologies and Applications, L. Rivero, J. Doorn and E. Ferragine(ed.), Idea Group Publishing, pp. 613-618, 2005. (*My contribution: 70%: I am the corresponding author, and I am responsible for writing 50% of the chapter.*)

[B14] B. Kao and **R. Cheng**. *Disk Scheduling*. In Real-Time Database Systems: Architecture and Issues, edited by K. Y. Lam and T. W. Kuo, Kluwer Academic Publishers, pp. 97-107, Boston, Dec 2001. (*My contribution: 50%: I am responsible for writing the first draft of the chapter, and surveying the literature.*)

Knowledge Exchange Articles

- [K1] **R. Cheng**. Techno-Ageing. Cover story in the Bulletin, University of Hong Kong. May 2020.
- [K2] **R. Cheng** and **Y. Zheng***. Crowdsourcing: Managing Crowd Wisdom in the Age of Big Data. Invited article for the Faculty of Engineering eNews. September 2015.
- [K3] **R. Cheng**. Scalable Continuous Query Processing on Imprecise Location Data (移動位置資料庫的連續性查詢處理). Research Frontiers, the Research Grants Council (RGC) of the University Grants Committee (UGC), Issue 23, Oct 2012. URL: <http://www.ugc.edu.hk/rgc>

Software

[K4] C. Mayfield, S. Singh, **R. Cheng** and S. Prabhakar. *ORION: A Database System for Managing Uncertain Data*, version 0.1, March 2006, copyrighted by Purdue University. URL: <http://orion.cs.purdue.edu>

Tutorials

1. **R. Cheng**. *Meta Paths and Meta Structures: Analyzing Large Heterogeneous Information Networks*. In **APWeb-WAIM Conference**, Beijing, 9th July, 2017.
2. G. Li, **Y. Zheng***, J. Fan, J. Wang, and **R. Cheng**. *Crowdsourced Data Management: Overview and Challenges*. In **SIGMOD Conference 2017**, pp. 1711-1716.
3. **R. Cheng**. *Managing the Quality of Crowdsourced Databases*. In The 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD-2014**), Tainan, Taiwan, 13-16 May, 2014.
4. **R. Cheng**, T. Emrich, H. Kriegel, N. Mamoulis, M. Renz, G. Trajcevski, and A. Zuefle. *Managing Uncertainty in Spatial and Spatio-temporal Data*. In Intl. Conf. on Data Engineering (**ICDE 2014**), Chicago, March 31-April 4, 2014.
5. M. Renz, **R. Cheng**, and H. Kriegel. *Similarity Search and Mining in Uncertain Databases*. In Very Large Databases Conf. (**VLDB 2010**), Singapore, 13-17 September, 2010.

Research Projects

As a Principal Investigator (PI):

[External grants]

1. **PI** – *Using Knowledge Graphs for Long-Tail Keyword Query Recommendation in Video Search* (HKU-TCL Joint Research Centre for Artificial Intelligence, Ref: 200009430, Nov 2020-Oct 2022). Amount: HKD 1,000,000.
2. **PI** – *HINCare: A Heterogeneous Information Network for Elderly-Care Helper Recommendation* (Innovation and Technology Fund (ITF) – Midstream Research Programme for Universities (MRP), Ref: MRP/029/18, 2019-2021). Amount: HKD 4,066,400.
3. **PI** – *Modelling of Artificial Neural Networks, Distributed System with High Reliability for Intelligent Data Management System (IDMS)*, contract research, ASTRI, 2019. Amount: HKD 900,000.
4. **PI** (project partner: M. Renz) – *Motif Discovery in Heterogeneous Information Networks*, RGC Germany/Hong Kong Joint Research Scheme 2018/2019. Ref: G-HKU706/18, Amount: HKD 89,600.

5. **MTRC collaboration core member** (with Prof. W.K. Li, B. Kao, P. Yu, and W. K. Kwan), for Proof-of-Concept of projects for Mass Transit Railway Corporation (MTRC), Hong Kong. Amount: HKD 2,000,000.
6. **PI** (Co-I: N. Mamoulis) – *Query Suggestion for Geo-Textual Data* (RGC **GRF**, Ref: 106150091, 2016-19). Amount: HKD 518,528.
7. **PI** (Co-I: B. Cautis and S. Maniu) – *Discovering and Querying Meta-Graphs in Large Heterogeneous Information Networks* (RGC **GRF**, Ref: 17229116, 2016-18). Amount: HKD 675,647.
8. **PI** (Co-I: W. Fan and P. Senellart) – *Efficient Query Algorithms for Uncertain Graph Databases* (RGC **GRF**, Ref: 17205115, 2015-17). Amount: HKD 462,528.
9. **PI** (Co-I: K. Rothermel and M. L. Yiu) – *UV-Diagram: A Voronoi Diagram for Uncertain Spatial Databases* (RGC **GRF**, Ref: 711110, 2011-13). Amount: HKD 746,400.
10. **PI** – Universitas 21 Fellowship 2011-12 (for visiting Prof. Anthony Tung, School of Computing, the National University of Singapore in July-August 2011. Amount: HKD 50,000. (*Completed*))
11. **PI** (Co-I: K. Rothermel and D. Olteanu) – *Scalable Cleaning of Probabilistic Databases with Quality Guarantees* (RGC **GRF**, Ref: 711309E, 2010-12). Amount: HKD 696,500 (*Completed*).
12. **PI** (Co-I: K. Rothermel) – *Scalable Continuous Query Processing on Imprecise Location Data* (RGC **GRF**, Ref: 513508, 2009-11). Amount: HKD 645,950 (*Completed*).
13. **PI** (Co-I: K. Rothermel) – *Adaptive Filters for Continuous Queries over Constantly-Evolving Data Streams* (RGC **CERG**, Ref: 513307, 2008-10). Amount: HKD 391,512 (*Completed*).
14. **PI** (Co-I: E. Bertino and S. Prabhakar) – *Privacy Protection in Location-based Services with Location Cloaking* (RGC **CERG**, Ref: 513806, 2007-09). Amount: HKD 356,000 (*Completed*).
15. **PI** (project partner: K. Rothermel) – *Efficient Protocols for Quality-Aware Querying of Sensor Data in Pervasive Environments*, RGC Germany/Hong Kong Joint Research Scheme 2006/2007. Ref: G_HK013/06, Amount: HKD 59,600 (*Completed*).
16. (**Submitted**) **PI** (Co-I: B. Kao (HKUCS); S.C. Wong, C.P. Wong, W.Y. Szeto (HKU Civil), Y. H. Kuo (HKU IMSE); Y.S. Lum (HKU SWSA); M.L. Yiu (HKPU Computing)) – *On Big-Data-Driven Smart Paratransit* (RGC **Collaborative Research Fund 2019/20**).

[Internal grants]

17. **PI** – *Evaluating Motif Discovery Queries on Large Graph Databases* (Seed Fund for Basic Research for Resubmission of GRF/ECS Proposals), HKU. Ref: 104005994, July-Nov 2020). Amount: HKD 49,500.
18. **PI** – *Analysis and Visualization of MTR Passenger Behavior During COVID19* (COVID-19 Action Seed Funding (Second Round)), HKU. Ref: 176FRCKCHE ,177DRCKCHE, July 2020 – June 2021). Amount: HKD 90,000.
19. **PI** – *Effective and Efficient Embedding Solutions for Uncertain Many-Graph Databases* (Seed Fund for Basic Research), HKU. Ref: 201910159282, June 2020-May 2021). Amount: HKD 55,460.
20. **PI** – *UGE: Effective, Adaptive, and Efficient Mining of Large Uncertain Graphs* (Seed Fund for Basic Research for Resubmission of GRF/ECS Proposals), HKU. Ref: 104005125, July-Nov 2018). Amount: HKD 55,330.
21. **PI** – *Using Meta-Structures for Long-Tail Web Query Recommendation* (Seed Funding Programme for Basic Research), HKU. Ref: 104005000, 2018-19). Amount: HKD 63,436.
22. **PI** – *Managing Uncertainty of Heterogeneous Big Multimedia Data* (Seed Funding Programme for Basic Research), HKU. Ref: 104004572, 2017-18). Amount: HKD 44,320.
23. **PI** – *Managing Quality of Big Traffic Data*. HKU 37th Round PDF/RAP Scheme (for recruitment of a postdoctoral researcher in years 2017-18).
24. **PI** – *Scalable, Effective and Privacy-Aware Location-based Services for Big Traffic Data* (Seed Funding for Incubating Group-based Collaborative Research - CRF), HKU. Ref: 102009508, 2016-18). Amount: HKD 100,000.
25. **PI** – *LAPS: A Scalable Location-Aware Publish/Subscribe System* (Seed Funding Programme for Basic Research), HKU. Ref: 104004129, 2016-17). Amount: HKD 34,490.
26. **PI** – *Managing Crowdsourced Databases: A Probabilistic Approach* (Seed Funding Programme for Basic Research), HKU. Ref: 201411159171, 2015-16). Amount: HKD 44,925.
27. **PI** – *Effective Noise Removal Algorithms for Ambiguous Databases* (Seed Funding Programme for Basic Research), HKU. Ref: 201311159095, 2014-15). Amount: HKD 47,900.
28. **PI** – *Query-Efficient Representations of Uncertain Graphs* (Seed Funding Programme for Basic Research), HKU. Ref: 201211159083, 2013-14). Amount: HKD 154,200.
29. **PI** – *Travel Grants* for University Academic Staff to Visit Universities in Taiwan (National Chiao Tung University, Prof. Wen-Chih Peng, July 28 – August 4, 2013, with an award amount of HKD 9,600)

30. **PI** – *Management of Large-Scale Uncertain Databases*. HKU Engineering Postdoctoral Fellow Programme (for recruitment of a postdoctoral researcher in years 2010-12).
31. **PI** – *Probing Imprecise Sensor Data with Quality Guarantees* (Seed Funding Programme for Basic Research), HKU. Ref: 200808159002, 2008-10). Amount: HKD 240,000. (Completed)
32. **PI** (Co-I: D. Yau) - *Efficiency of Privacy Preservation Mechanisms in Routing over the Internet* (Internal Research Grant (ICRG), PolyU. Ref: A-PH09, 2006-08). Amount: HKD 120,000. (Completed)
33. **PI** (Co-I: D. Yau) – *Protecting Network Privacy with Spatial and Temporal Cloaking* (Internal Research Grant (ICRG), PolyU. Ref: A-PH39, 2007-08). Amount: HKD 120,000. (Completed)

As a Co-Investigator (co-I):

[External grants]

34. **Co-I** (PI: W. Lou) – *Embrace My Age: A Partnered Solution for Better, Healthier, and Meaningful Ageing* (Hong Kong Jockey Club Charity, 2019-2022). Amount: HKD 12.95M.
35. **Co-I** (PI: Lo Chi Lik Eric) – *Online Analytical Processing on Big Sequence Data* (RGC CERG. Ref: 521012E, 2012-13). Amount: HKD 700,000.
36. **Co-I** (PI: J. Cheng (SIAT)) – *Fast Algorithms for Analyzing Large Uncertain Graphs* (NSF China, Project for Young Scientists Fund, 2012-14. Amount: RMB 220,000.
37. **Co-I** (PI: W. Wu (SYSU)) -- *Cooperative Caching in Wireless Mesh Networks* (NSF China, Project for Young Scientists Fund, General Program, 2009-11. Amount: RMB 200,000.
38. **Co-I** (PI: D. Wang) – *Proactive Data Sweeping and Adaptive Communication for Efficient Data Collection in Sensor Networks* (RGC CERG. Ref: 530508, 2009-10). Amount: HKD 346,060.
39. **Co-I** (PI: Y. Tao) – *Query Processing on Historical Uncertain Spatiotemporal Data* (RGC CERG. Ref: 120206, 2006-07). Amount: HKD 961,920. (Completed)

[Internal grants]

40. **Co-I** (PI: B. P. Y. Loo) – UC Davis – HKU Collaborations in Research Scheme (Together in a Sustainable Transport Dream at the Two Bay Areas (One Dream, Two Bay Areas, 2018-2020). Amount: HKD 200,000.
41. **Co-I** (PI: B. Kao) -- Interdisciplinary KE Project Fund: KE-ID-2018/19-21: Artificial Intelligence for Legal Services: Sentencing Wizard on Drug Trafficking. Amount: HKD 175,000.
42. **Co-I** (PI: Y. Liu) – *Hierarchical Multimedia Database for Semantic-based Multimedia Retrieval* (Internal Research Grant, PolyU, 2006-08. Ref: A-PH11). Amount: HKD 120,000.
43. **Key member** (PI: V. Li) -- Strategic-oriented Research Theme (SORT) on Artificial Intelligence to Advance Well-Being and Society, HKU.
44. **Affiliated Member** (PI: J. Ng) – *A Research Center for Ubiquitous Computing* (Central Allocation Group Research Projects, RGC, 2006-09, HKBU 1/05C)
45. **Member**, StruFus: Infrastructure for Information Fusion (joint project with U. Skövde, HKU, HKBU, IIT Bombay, U. Wuhan, 2008-09)

Teaching-Related Projects

1. **Co-I** – *Essential Skills for Undergraduates: Foundation of Data Science*” (Teaching Development and Language Enhancement Grant (TDLEG, HKU, 2019-22, Ref: **101041901**). Amount: **HKD 3M**.
2. **PI** – *The Development of the Common Core Course “The Age of Big Data”* (Teaching Development Grant (TDG, HKU, 2015. Ref: **101000560**). Amount: **HKD 50,000**.
3. **Course Coordinator** (teacher: Dr. Ben Kao, Dr. Nikos Mamoulis, Dr. W.S. Ho) – *Handling Information in Everyday Life, University Common Core Course Stage I teaching proposal*, HKU, selected to proceed to Stage II under the AoI of “Scientific & Technological Literacy”. Acceptance rate: 59.4%, 57/96, 2010.
4. **Member** (PC: C. K. Chui) – *Kids can code* (Knowledge Exchange (KE) Funding Exercise, HKU, 2015-16, KE-IP-2015/16-35). Amount: HKD 100,000.

5. **Co-I** (PI: M. Wang) – *Support Self-Directed Learning in Interdisciplinary Studies by Developing a Knowledge Visualization and Navigation System* (Teaching Development Grant (TDG), HKU, 2009-11). Amount: HKD 268,240.
6. **Co-I** (PI: G. Ngai) – *PANDA: A Multi-User Platform for Teaching Computer Programming* (Learning and Teaching Development Grants, PolyU, 2006-07). Amount: HKD 100,000. (*Completed*)

Current Students

- Caihua Shan (PhD candidate, HKU, 2015 – current, co-supervised with Prof. Nikos Mamoulis)
- Xiaodong Li (PhD candidate, HKU, 2016 – current)
- Chenhao Ma (PhD candidate, HKU, 2017 – current)
- Xiaolin Han (PhD candidate, HKU, 2018 – current)

Graduated Students

- Jinchuan Chen (PhD, HKPU, Jan 2006 – May 2009; co-supervised with Prof. Jiannong Cao; now associate professor in Renmin University of China. Thesis title: Querying and Cleaning Uncertain Data.)
- Yinuo Zhang (M. Phil., HKU, 2008 – Dec 2010; now PhD candidate in the University of Southern California (USC). Thesis title: Evaluating Continuous Probabilistic Queries over Sensor and Location Data.)
- Liwen Sun (M. Phil., HKU, 2008 – Dec 2010, co-supervised with Prof. D. Cheung; now PhD candidate in UC Berkeley. Thesis title: Mining Uncertain Data with Probabilistic Guarantees.)
- Jim Gong (PhD, HKU, 2007 – Apr 2011, co-supervised with Prof. D. Cheung; now Associate Consultant of Calypso Technology Limited. Thesis title: Managing Uncertainty in Schema Matchings.)
- Xiang Li (M. Phil., HKU, 2009 – Feb 2012, co-supervised with Prof. D. Cheung; now in Merrill Lynch, Hong Kong. Thesis title: Managing Query Quality in Probabilistic Databases.)
- Xike Xie (PhD, HKU, Jul 2008 – Mar 2012; now professor in USTC (University of Science and Technology of China). Thesis title: Evaluating Nearest Neighbor Queries over Uncertain Databases.)
- Yifan Jin (M. Phil. HKU, 2010 – Jul 2012, co-supervised with Prof. B. Kao. Thesis title: A Filter-based Protocol for Continuous Queries over Imprecise Location Data.)
- Peiwu Zhang (M. Phil. HKU, Sep 2010 – Dec 2012, co-supervised with Prof. N. Mamoulis. Thesis title: Voronoi-based Nearest Neighbor Search for Multi-Dimensional Uncertain Databases.)
- Xuan Yang (PhD, HKU, Sep 2009 – Dec 2013, co-supervised with Prof. D. Cheung; now in MSRA. Thesis title: Budget-Limited Data Disambiguation.)
- Wangda Zhang (M. Phil. candidate, HKU, Sep 2011 – Jan 2014, co-supervised with Prof. B. Kao; now PhD candidate in Columbia University. Thesis title: Evaluating Multi-Way Joins over Discounted Hitting Time.)
- Changpeng Meng (M. Phil. candidate, HKU, Sep 2012 – Jul 2014; now PhD candidate in Purdue University. Thesis title: Discovering Meta-Paths in Large Knowledge Bases.)
- Siyu Lei (M. Phil. Candidate, Sep 2012 – Feb 2015. Thesis title: Online Influence Maximization.)
- Yu Tang (M. Phil. candidate, HKU, 2011 – 2013, co-supervised with Dr. N. Mamoulis. Thesis title: Similarity Search with Earth Mover's Distance at Scale.)
- Luyi Mo (PhD candidate, HKU, 2011 – 2015, primary supervisor, co-supervised with Prof. D. Cheung. Thesis title: Cleaning Algorithms for Novel Applications.)
- Xuhui Jia (PhD candidate, HKU, 2011 – 2016, co-supervised with Dr. K. P. Chan)
- Yong Xu (MPhil, HKU, Sep 2014 – Jun 2017. Thesis title: Top-*k* SAS: On Reliable Retrieval of Top-*k* Tags. Now in Microsoft Research Asia (MSRA))
- Yudian Zheng (PhD, HKU, 2013-2017. Thesis title: Managing the Quality of Crowdsourced Databases. Now in Twitter, USA)
- Yixiang Fang (PhD, HKU, 2012-2017. Thesis title: Effective and Efficient Community Search over Large Attributed Graphs. Now a postdoc in University of New South Wales (UNSW)).
- Haiqi Sun (MPhil, HKU, 2015-2018. Thesis title: Maximizing Social Influence for the Awareness Threshold Model.)
- Jiafeng Hu (PhD, HKU, 2014-2018. Thesis title: Effective and Efficient Algorithms for Large Graph Analysis. Now in Google).
- Nathan Yan (MPhil, HKU, 2016-2018. Thesis title: CODED: SC-Oriented Data Error Detection.)
- Siqiang Luo (PhD, HKU, 2015-2019, co-supervised with Prof. Ben Kao (chief supervisor). Thesis title: Adaptive Optimization Techniques in Graph-based Applications.)

- Zhipeng Huang (PhD, HKU, 2015-2019, co-supervised with Prof. B. Kao (chief supervisor). Thesis title: Mining Heterogeneous Information Networks.)
- Zichen Zhu (MPhil, HKU, 2016-2019. Thesis title: Effective and Efficient Discovery of Top- k Meta Path in Heterogeneous Information Networks.)

Research Assistants

- Silviu Maniu (Ph.D., Telecom ParisTech, *Postdoctoral Research Fellow*: Oct 2012 – Oct 2014)
- Yuxiang Wu (CS, Sun Yat Sen University; *Summer Intern Student*: Jul – Aug 2013)
- Caihua Shan (CS, Zhejiang University; *Summer Intern Student*: Jul – Aug 2013)
- Xu Yong (CS, Huazhong University of Science and Technology; *Summer Intern Student*: Jul – Aug 2013)
- Bo Liang (CS, Zhejiang University; *Student Intern Student*: Jul – Aug 2013)
- Zewei Chu (BEng (CS); *Student Research Assistant*: May – Nov 2012)
- Jiefeng Cheng (Ph.D., CUHK, *Postdoctoral Research Fellow*: Apr 2010 – Aug 2011; *Senior Research Assistant*: Oct 2009 – Mar 2010)
- James Siu (BEng (CS); *Student Research Assistant*: Jul – Sep 2011)
- Du Wei (BBAIS; *Student Research Assistant*: Dec 2009 – Jan 2010; Jul – Aug 2010)
- Chan Chi Wai (BBAIS; *Student Research Assistant*: Jul – Aug 2010)
- Bryan Hui (BEng (CE); *Student Research Assistant*: Jul – Aug 2009)
- Li Man Ho (BEng (CS); *Student Research Assistant*: Jul – Aug 2009)
- Jinchuan Chen (Jan 2009 – May 2009)
- Jin Jian (Jan 2009 – Mar 2009)
- Jianyun Fu (Sept 2006 – Oct 2007, HKPU)
- Kitty Yuen (summer 2007, HKPU)

MSc Students

- Namm Andres, Zhao Yanhui, Lin Yu, Liang Hao, and Fang Cheng (Project: A Large Incident Management System (IMS) for Intelligent City Development, HKU, 2017-18).
- Wang Zheng (Project: Continuous Spatial-aware Community Search, HKU, 2017-18).
- Chen Yankai (Project: Effective and Efficient Community Search for Large Attributed Graphs, HKU, 2017-18).
- Ng Kwong Hei and Wong Ka Yu (Project: Discovering and Querying Meta-graphs in Large Heterogeneous Information Networks, HKU, 2017-18).
- Guan Ruixiang, Ma Mutian, Qiang Shuya, Weng Lili and Wu Mengying, (Project: i-tag: Collaborative Tagging System, HKU, 2014-15, completed).
- Jeff Smith, Zuyao Wang, and Lu Liu (Project: An Uncertain column-oriented databases, HKU, 2012-13, completed)
- Clement Ha (Project: Location-based services with uncertain database support, HKU, 2008-09, completed)

Undergraduate Final Year Project Student Supervision

- Xu Fangyuan and Wu You (2016-17)
- Lau Piu Lam, Lo Ming Fai, Vinny Wong, and Dongguang You (2015-16)
- Denny Lin and Juntao Huang (2013-14)
- James Siu and Yuen Chi Leung (2011-12)
- Du Wei and Chan Chi Wai (2010-11)
- Lau Kai Wai Elvis, Lau Si Kit Alex, Li Tang Tommy, Chau Kei Man (2010-11)
- Bryan Hui, Li Man Ho, Michael Lau, and Hao Chan (2009-10)
- Chan Hong Ming, Chong Wing Tong, Wong Kar Man, Chan Hong Lap, Sin Ho Lun, Yau Siu Long, Jenny Lam, Wong Ka Ho, Wong Ping Hang (HKPU, 2007-08)
- Alfred Cheng, Gary Ching, Terry Wong, Victor Yu, Kitty Yuen (HKPU, 2006-07)

Awards Won by Supervised Staff and Students

- Chenhao Ma, my PhD student, won the Hong Kong and China Gas Company Limited Postgraduate Scholarship 2019-20.
- Rutian Ma was awarded the HKU Undergraduate Research Fellow Programme, for doing a project on *graph embedding*, supervised by Dr. Reynold Cheng, in June-August 2018.

- Jiafeng Hu, my PhD student, won the Hong Kong and China Gas Company Limited Postgraduate Scholarship 2017-18.
- Yunfan Kang won the **Third runner-up prize** for the HKU Final-Year Project Competition, on *C-Explorer: Browsing Communities in Large Graphs*, 2017-18.
- Yunfan Kang was awarded the HKU Undergraduate Research Fellow Programme, for doing a project on *community search*, supervised by Dr. Reynold Cheng, in June-August 2017.
- Fung Yuet was awarded the HKU Undergraduate Research Fellow Programme, for doing a project on *meta-path analysis*, supervised by Dr. Reynold Cheng in June-August 2016.
- Xu Fangyuan and Wu You won the “Best 50 Final Year Projects” by Hong Kong X-Tech Startup Platform, on “Mining HKUCS Graduate Student Data: Extraction, Analysis, and Prediction”, 2016-17.
- Lau Piu Lam, Lo Ming Fai, Vinny Wong, and Dongguang You won the Bronze Award in the China Pan-Pearl River Delta Region University IT Project Competition 2016.
- Yudian Zheng, my PhD student, won the Hong Kong and China Gas Company Limited Postgraduate Scholarship 2015-16.
- Yudian Zheng, my PhD student, won the SIGKDD 2016 Student Travel Grant.
- Zhipeng Huang, my PhD student, won the SIGKDD 2016 Student Travel Grant.
- Yudian Zheng, my PhD student, won the SIGMOD 2015 Travel Grant, \$400 AUD.
- Jason Meng, my MPhil student, won the WWW 2015 Student Travel Grant.
- Lau Pui Lam, Lo Ming Fai, Wong Vinny, and You Dongguang won the **Third runner-up prize** for the HKU Final-Year Project Competition, on *A Mobile and Intelligent Student Interview System for HKUCS*, 2015-16.
- Luyi Mo, my PhD student, won the Hong Kong and China Gas Company Limited Postgraduate Scholarship 2012-13.
- Luyi Mo, my PhD student, won the Hong Kong PhD Fellowship awarded by the Hong Kong RGC, 2011
- Lau Kai Wai Elvis, Lau Si Kit Alex, Li Tang Tommy, Chau Kei Man won the **Champion** prize for the HKU Final-Year Project Competition, on *An Intelligent Mobile Transport System*, 2010-11.
- Bryan Hui, Li Man Ho, Michael Lau, and Hao Chan won the **First runner-up prize** for the HKU Final-Year Project Competition, on *Energy-aware location-based services*, 2009-10
- The HKU programming team, named “Far” and **coached by Dr. Reynold Cheng**, obtained an honorable mention in the **World Finals of the ACM International Collegiate Programming Contest**, in Stockholm in April 2009. Our team is among the 100 teams in this prestigious competition, which are chosen from 7,109 teams from 1,838 universities in 88 countries on six continents.
- The HKU team, **coached by Dr. Reynold Cheng**, won the 2nd Runner-Up award in the IBM Inter-University Programming Contest 2009, which consists of 37 strong teams from universities in Hong Kong and Macau.
- Three HKU programming teams, coached by **Dr. Reynold Cheng**, won the Gold, Silver, and Bronze Awards in the ACM Collegiate Programming Regional Contest (Indonesia), Binus University, Indonesia, Oct 20-21, 2008. The teams were among the top ten, with “Far” obtaining the highest ranking as the 4th among 49 strong teams. HKU was also the 2nd runner-up university in this prestigious competition.
- Chan Hong Ming won the Merit Awards of the Charles Baggage Final Year Project Awards, HKPU, 2007/08
- Kitty Yuen won the champion of the Amway Pan-Pearl IT Project Competition, China, for the final year project in 2007. The goal of the project is design a two-dimensional uncertain database, based on the ORION database system that I developed earlier. The Competition is organized by Guizhou Computer Federation, and the Internet Professional Association is the co-organizer in Hong Kong Region. After a local competition held in Hong Kong, 4 teams from 9 local tertiary institutions are selected to represent Hong Kong in *final judging* held in Guiyang, Guizhou. The final judging involves outstanding students from Macau and 9 provinces in the Pan-PRD region: Guangdong, Guangxi, Fujian, Hunan, Hainan, Sichuan, Guizhou, Yunnan and Jiangxi.
- Kitty Yuen and Terry Wong won the Merit Awards of the Charles Baggage Final Year Project Awards, HKPU, 2006/07.

Invited Talks and Refereed Posters (not including conference talks)

Note: A “[KE]” before the item means the talk is a *knowledge exchange seminar*.

1. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in UC Irvine, US, 26th August, 2019.
2. [KE] “HINCare: Enhancing TimeBank with Artificial Intelligence”, **Research Workshop on Geriatric Science & Gerontechnology**, Senate Room, University of Hong Kong, 16th April, 2019.

3. [KE] “The Age of Big Data”, Executive Training Course for the Senior Government Officials of Bangladesh Ministry of Public Administration (MoPA), **University of Hong Kong**, 28th February, 2019.
4. “Managing Uncertainty in Big Data”, **invited speaker**, DI³ (Intl. Workshop on Data Integration, Intelligence, and Interoperability for Smart Cities), **National Institute of Advanced Industrial Science and Technology (AIST)**, Tokyo Waterfront, Japan, 22-23rd February, 2019.
5. [KE] “The Age of Big Data”, 華東師範大學 –“全球科技菁英”交流項目, **University of Hong Kong**, 26th January, 2019.
6. [KE] “Big Data Analytics”, **Workshop on Big Data Science and Technology**, University of Hong Kong, 10th December, 2018.
7. [KE] “On Heterogeneous Information Networks”, **HKU-Huawei Joint-Research Collaboration Workshop**, 5 December, 2018.
8. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in **Alibaba**, Hangzhou, 9th August, 2018.
9. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in **Guangdong Big Data Center**, Shenzhen, 28th July, 2018.
10. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in 1.5-hour tutorial, PhD school, **Australasian Database Conference (ADC)**, collocated with **DASFAA**, Gold Coast, 23rd May, 2018.
11. “On Spatial Pattern Matching”, in **Australia-China Database Workshop**, 20th May, 2018.
12. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in Data Science seminar, **Queensland University**, 16th May, 2018.
13. “Meta Paths and meta Structures: Analyzing Large Heterogeneous Information Networks”, in **Alibaba**, Hangzhou, 8th January, 2018.
14. “Meta Paths and Meta Structures: Analyzing Large Heterogeneous Information Networks”, in **Jing Dong Data Science Lab**, Beijing, 13th July, 2017.
15. “Meta Paths and Meta Structures: Analyzing Large Heterogeneous Information Networks”, in Department of Computer Science, **Tsinghua University**, 11th July, 2017.
16. “Meta Paths and Meta Structures: Analyzing Large Heterogeneous Information Networks”, **ICT, Chinese Academy of Science**, Beijing, 7th July, 2017.
17. “On Attributed Community Search”, in the Department of Computer Science, **Harbin Institute of Technology (HIT) Shenzhen Graduate School**, 15th December, 2016.
18. “Meta Paths and Meta Structures: Computing Relevance in Large Heterogeneous Information Networks”, in **Shenzhen Institute of Advanced Technology (SIAT), Chinese Academy of Sciences**, 14th December, 2016.
19. “Meta Paths and Meta Structures: Computing Relevance in Large Heterogeneous Information Networks”, in the Department of Computer Science, **Fudan University**, 10th September, 2016.
20. “Meta Paths and Meta Structures: Computing Relevance in Large Heterogeneous Information Networks”, in the Department of Computer Science, **Macao University**, 29th July, 2016.
21. “Meta Paths and Meta Structures: Computing Relevance in Large Heterogeneous Information Networks”, in the Department of Computer Science, **City University of Hong Kong**, 28th July, 2016.
22. “Meta Paths and Meta Structures: Computing Relevance in Large Heterogeneous Information Networks”, in the Department of Computer Science, **INRIA/LIX**, Paris, 1st July, 2016.
23. [KE] “Enriching Knowledge Series: (20) The Uses and Applications of Big Data in Daily Life”, ICT training seminar for secondary school teachers, **Education Bureau**, Hong Kong, 2016.
24. [KE] “Big Data Applications”, Trans-disciplinary Research Workshops, **Graduate School**, University of Hong Kong 2015-16. Dec 2 and 16, 2015 (6 hours)
25. [KE] “The Age of Big Data”, in the Big Data and Privacy Workshop, **Law and Technology Centre**, University of Hong Kong, 30th November, 2015. URL: <http://www.lawtech.hk/big-data-and-privacy-workshop/>
26. “On Crowdsourcing Tags”, in the Department of Computer Science and Engineering, **Shanghai Jiao Tong University**, 7th May, 2015.
27. “On Incentive-based Tagging” (**Keynote Speaker**), in the 7th Intl. Symposium on Computational Intelligence and Design (**ISCID 2014**), 13-14th December, 2014.
28. “Managing Uncertain Databases”, in the College of Computer Science, **Zhejiang University**, 12th December, 2014.
29. “On Incentive-based Tagging”, in the **Summer School**, College of Computer Science and Software Engineering, Shenzhen University, 14th July, 2014.
30. “iTag: Incentive-based Tagging”, in the **2014 Big Data Workshop**, Chinese University of Hong Kong, 22nd April 2014.

31. “Managing Uncertain Databases”, in **Xi’an Jiaotong University**, 11th March 2014.
32. “Managing Uncertain Databases”, in the **Advanced Database Lab (adalab)**, Soochow University, 6th March 2014.
33. **[KE]** “Publishing Research Papers”, in the **Advanced Database Lab (adalab)**, Soochow University, 3rd March, 2014.
34. “On Incentive-based Tagging”, in the **Advanced Database Lab (adalab)**, Soochow University, 26th February 2014.
35. “Evaluating Multi-way Joins over Discounted Hitting Time”, research seminar at the **National Donghua University (NDHU)**, Hualien, Taiwan, 15th January, 2014.
36. “On Incentive-based Tagging”, research seminar at **Academic Sinica (AS)**, Taipei, Taiwan, 13th January, 2014.
37. “Evaluating Multi-way Joins over Discounted Hitting Time”, research seminar at the **National Tsinghua University (NTHU)**, Hsinchu, Taiwan, 10th January, 2014.
38. “On Incentive-based Tagging”, research seminar at the **National Chiao Tung University (NCTU)**, Hsinchu, Taiwan, 9th January, 2014.
39. **[KE]** “Writing Research Papers”, research seminar at the **National Chiao Tung University (NCTU)**, Hsinchu, Taiwan, 8th January, 2014.
40. “On Incentive-based Tagging”, research seminar at the **University of Oxford**, Oxford, UK, 30th July, 2013.
41. “On Incentive-based Tagging”, research seminar at the **Microsoft Research Asia (MSRA)**, Beijing, China, 7th June, 2013.
42. “On Incentive-based Tagging”, research seminar at the **East China Normal University**, Shanghai, China, 4th June, 2013.
43. “Filter-based Procotols for Continuous Queries over Imprecise Location Data”, research seminar at the **INQUEST workshop (INovative QUerying of Streams)**, Oxford University, 25-27th September, 2012.
44. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, research seminar at the **Microsoft Research Asia (MSRA)**, Beijing, China, 13th September, 2012.
45. “Managing Uncertain Databases”, invited talk in the 2012 **International Conference on Intelligent Human-Machine Systems and Cybernetics (IHMSC)**, 26-27 August, 2012.
46. “Evaluating Probabilistic Queries over Uncertain Matching”, research seminar at the **Shandong University**, Jinan, China, 31st July, 2012.
47. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, research seminar at the **Shandong University**, Jinan, China, 27th July, 2012.
48. “Evaluating Probabilistic Queries over Uncertain Matching”, research seminar at the **University of Munich (LMU)**, Munich, Germany, 19th June, 2012.
49. “Evaluating Probabilistic Queries over Uncertain Matching”, in the 2011 **International Workshop on Advanced Data Management (ADM)**, December 2011.
50. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, in the **Nanyang Technological University (NTU)**, August 2011.
51. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, in the **National University of Singapore (NUS)**, August 2011.
52. “Managing Uncertain Databases”, in the **National University of Singapore (NUS)**, July 2011.
53. “Managing Uncertain Databases”, in the **Advanced Digital Sciences Center (ADSC)**, University of Illinois at Urbana-Champaign, Singapore, July 2011.
54. “Managing Uncertain Databases”, at the Summer Research Institute seminar series, School of Computer and Communication Sciences, **EPFL**, Lausanne, 15th June, 2011.
55. “Managing Uncertain Databases”, at the DKE seminar, **University of Queensland**, 31st May, 2011.
56. “Managing Uncertain Databases”, at the Australian e-Health Research Centre, **CSIRO**, Australia, 3rd June, 2011.
57. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, at the ITEE seminar, **University of Queensland**, 1st June, 2011.
58. “Explore or Exploit? Effective Strategies for Disambiguating Large Databases”, **Invited Talk**, in the 2nd StrucFus meeting, Sweden, Nov 30-Dec 2, 2010.
59. “UV-diagram: A Voronoi Diagram for Uncertain Data”, at the **Singapore Management University**, 13 September, 2010.
60. “Managing Uncertain Databases”, **Invited Talk**, in the **PhD Summer School** (Data Intensive Computing and Unstructured Data Management, Part 2: Unstructured Data Management), 19-31 July 2010, Renmin University of China.
61. “UV-diagram: A Voronoi Diagram for Uncertain Data”, at the **Renmin University of China**, China, 27 July, 2010.
62. “UV-diagram: A Voronoi Diagram for Uncertain Data”, at **Peking University**, China, 29, July, 2010.

63. "Cleaning Uncertain Data with Quality Guarantees", **Invited Talk**, in the 1st StrucFus meeting, Sweden, Aug 12-13, 2009.
64. "Querying and Cleaning Uncertain Data", **Invited Talk**, in the 1st Intl. Workshop on Quality of Context (**QuaCon**), Stuttgart, Germany, June 2009.
65. "Cleaning Uncertain Data with Quality Guarantees", the Informatics Colloquium, at the **University of Stuttgart**, Germany, 11 August 2008.
66. "Managing Spatial Uncertainty in a Database System", *Keynote speaker*, at the POLYNET IT Security Symposium 2008, **Hong Kong Polytechnic University (HKPU)**, 5 June 2008.
67. "Managing Attribute Uncertainty in a Database System", at the **Chinese University of Hong Kong (CUHK)**, Hong Kong, 19 November, 2007.
68. "Efficient Evaluation of Imprecise Location-Dependent Queries", at the **Nanyang Technological University (NTU)**, Singapore, 7 August 2007.
69. "Efficient Evaluation of Imprecise Location-Dependent Queries", at the **National University of Singapore (NUS)**, Singapore, 3 August 2007.
70. "Efficient Evaluation of Imprecise Location-Dependent Queries", the Informatics Colloquium, at the **University of Stuttgart**, Germany, 3 July 2007.
71. "Querying Uncertainty of Spatial Data", at the Hong Kong Database Research Workshop, the **University of Hong Kong (HKU)**, 31 May, 2007.
72. "Efficient Evaluation of Imprecise Location-Dependent Queries", at the CS departmental seminar of the **University of Hong Kong (HKU)**, 13 April, 2007.
73. "Preserving User Location Privacy in Mobile Data Management Infrastructures", the research seminar at the **Shandong University**, Jinan, China, 21 August 2006.
74. "Uncertainty Management in Moving-Object and Sensor Databases", the research seminar at the **Shandong University**, Jinan, China, 17 August 2006.
75. "Uncertainty Management in Moving-Object and Sensor Databases", the Informatics Colloquium, at the **University of Stuttgart**, Germany, 13 July 2006.
76. "Change Tolerant Indexing on Constantly Evolving Data", the database research seminar meeting, at the **Hong Kong University of Science and Technology**, Hong Kong, 25 November, 2005.
77. "U-DBMS: A Database System for Managing Constantly-Evolving Data", Software demo, in Very Large Databases Conference (**VLDB 2005**), Norway, Aug 2005.
78. "Adaptive Stream Filters for Entity-based Queries with Non-value Tolerance", at the departmental seminar of the **University of Hong Kong**, Hong Kong, August 17, 2005.
79. "Change Tolerant Indexing on Constantly Evolving Data", the annual research meeting, at the **Hong Kong Polytechnic University**, Hong Kong, July 15, 2005.
80. "Managing Uncertainty in Sensor-based Applications", in *Wired for Wireless: Poster Session* of Purdue's Center for Wireless Systems and Applications (**CWSA**) Workshop, Purdue University, USA, Nov 18-19, 2004.
81. "Efficient Indexing Methods for Probabilistic Threshold Queries over Uncertain Data", at the seminar of CIMIC, **Rutgers University**, New Jersey, USA, Oct 13, 2004.
82. "Efficient Indexing Methods for Probabilistic Threshold Queries over Uncertain Data", at the CS seminar of **University of Illinois at Urbana-Champaign (UIUC)**, Illinois, USA, Sep 30, 2004.
83. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the **University of Edinburgh**, Edinburgh, Scotland, Sep 14, 2004.
84. "Efficient Indexing Methods for Probabilistic Threshold Queries over Uncertain Data", at the database group seminar of **Purdue University**, Aug 25, 2004.
85. "Managing Uncertainty in Moving-Object and Sensor Databases", at the 1st Mobile Computing Research Forum of the **Hong Kong University of Science and Technology (HKUST)**, Jul 28, 2004.
86. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the **Hong Kong University of Science and Technology (HKUST)**, Jul 7, 2004.
87. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the **Hong Kong Baptist University (HKBU)**, Jun 30, 2004.
88. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the **Hong Kong Polytechnic University (HKPU)**, Jun 28, 2004.
89. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the **University of Hong Kong (HKU)**, Jun 8, 2004.
90. "Managing Uncertainty in Moving-Object and Sensor Databases", at the CS seminar of the Department of **Chinese University of Hong Kong (CUHK)**, May 27, 2004.

Selected Work Experience

The University of Hong Kong

Jul 2008 – current

- Professor in the Department of Computer Science, Mar 2020 – current
- Associate professor in the Department of Computer Science, Mar 2012 – Feb 2020
- Assistant professor in the Department of Computer Science, Jul 2008 – Feb 2012
- Computer and Data Analytics Program Director, 2018-current
- Engineering Admission Committee Deputy Chair, 2020 - current
- Member, Departmental Curriculum Development Committee (DCDC), 2018-current
- MPhil/PhD Programme Director, 2012-18
- Chair of the Departmental Research Postgraduate Committee (DRPC), 2012-18
- Deputy Chair of the Departmental Research Postgraduate Committee (DRPC), 2011-12
- Chair of the China Programme Development, 2009-10, 2010-11, 2011-12
- Chair of the Committee on Mainland Recruitment (UG), 2009-10, 2010-11, 2011-12
- Chair of the Mainland UG Student Recruitment, 2009-10, 2010-11, 2011-12
- External Examiner/Academic Assessor for Higher Diploma in Logistics, Information Technology, Financial Information Management, and Business Systems, **HKUSPACE** (2008/09 – 2010/11)
- Member of the Board of the Faculty of Engineering, 2008 - current
- Member of the Admissions Committee (China), 2009-10, 2010-11, 2011-12
- Member of the Programme Committee for the Computer Engineering Course, 2009-10, 2010-11, 2011-12
- Member of the Committee on Advanced Undergraduate Training, 2009-10, 2010-11
- Member of the Departmental Curriculum Review and Development Committee (DCRDC), 2009-10, 2010-11, 2011-18
- Member of the Department Executive Committee (China Development), 2009-10
- Member of the Departmental Research Postgraduate Committee (DRPC), 2009-10, 2010-11
- Coach of three HKU teams for **ACM** Programming Competition, 2008-09
- Coach of five HKU teams for the IBM Inter-University Programming Contest 2009
- Presenter of mini-workshop in LOGIN 2010 and 2009 (a department activity for secondary school students)

The Hong Kong Polytechnic University

May 2005 – Jun 2008

- Assistant professor in the Department of Computing.
- Course Instructor (score = average Student Feedback Questionnaire score, out of 5):
 - Advanced Database Systems (COMP 5151), Spring 08 [score: 4.3]
 - Workflow Management and Collaborative Systems (COMP 5524), Spring 2006-08 [score: 3.9, 4.3, 4.0]
 - Wireless Computing Systems and Applications (COMP 5326), Fall 2005-07 [score: 3.9, 4.2, 4.3]
 - Principles of Programming (COMP 201), Fall 2006 [score: 3.7]
- Member of the **Scholarship Assessment Board**, 2005-08

Oxford University

- Visiting Researcher

24 – 31 Jul 2013

National University of Singapore

- Visiting Researcher

1-8 Aug 2007

University of Stuttgart

- Visiting Scientist

Jun – Jul 2007, Jun – Aug 2006

Shandong University

- Visiting Researcher

Jun 2013, Jul 2012, Aug 2006

Purdue University

Aug 2001 – May 2005

- Research assistant in the Department of Computer Sciences.
- Teaching assistant for *Computer Architecture* (CS 250), *Information Systems* (CS 348) and *Computer Networks* (CS 422). Work involved instructing recitation sessions, grading and assisting students.

Database Group, University of Hong Kong

May – Aug 2002, May – Aug 2004

- Summer Intern as research assistant for Prof. Ben C. M. Kao. Work on database streams, sensor stream mining, real-time data stream query processing and querying uncertainty.

University of Hong Kong

Aug 1998 – 2001

- Teaching assistant for Introduction to Data Structures and Algorithms (CSIS1119A) and graduate level Advanced Topics in Database Systems (CSIS 6954).

The HongKong Electric Company

Jun – Aug 1997

- Summer intern as database programmer: Oracle database cleansing on IBM DB2 and VAX platforms.

Professional Activities

1. **Member, Selection Committee for IEEE TKDE Editor-in-Chief**, 2016.
2. **Editorial Board Member, IEEE TKDE** (Transactions on Knowledge and Data Engineering), May 2015 – current.
3. **Editorial Board Member, DAPD** (Distributed and Parallel Databases Journal), March 2012 – current.
4. **Editorial Advisory Board, Information Systems** (Journal), July 2012 – current.
5. **Editorial Board, JISE** (Journal of Information Science and Engineering), Jan 2020 – current.
6. **Admission Panel Member, Hong Kong Science and Technology Parks Corporation (HKSTP) for Incubation Programmes**, 2018-2020.
7. **Guest Editor, World Wide Web Journal (WWWJ)**, *Selected Papers of WISE 2019, 2020*
8. **Guest Editor, Data Science and Engineering Journal (DSEJ)**, *Selected Papers of WISE 2019, 2020*
9. **Guest Editor, Journal of Internet Technology**, *Special Issue on Advances in Social Computing, 2016*
10. **Guest Editor, GeoInformatica**, *Special Issue on Spatial and Temporal Database, 2013.*
11. **Guest Editor, Distributed and Parallel Databases**, *Special Issue on Databases and Crowdsourcing, 2013.*
12. **Member, the SSTD Endowment**, March 2014 – current.
13. **General Chair, ACM-Hong Kong Programming Contest**, HKU, June 22nd 2013.
14. **Publicity Chair, ACM-Hong Kong Student Research and Career Day**, HKUST, November 19th, 2013.
15. **Vice Chairperson, ACM Hong Kong Chapter**, 2012-13.
16. **Head judge, Hong Kong ACM Programming Contest**, 2012.
17. **Keynote Speaker** for the Mobility Analytics for Spatio-temporal and Social Data (MATES 2017), co-located with VLDB 2017, 1st September, 2017.
18. **Invited Speaker** for the **2014 Big Data Workshop**, Chinese University of Hong Kong, 22nd April 2014.
19. **Invited Speaker** for the 2011 International Workshop on Advanced Data Management (**ADM 2011**), Shanghai, China, December 10-11, 2011.
20. **Speaker** for the tutorial, *Similarity Search and Mining in Uncertain Databases*, in **VLDB 2010**, September 13-17, 2010
21. **Invited Speaker** for the China NFS Summer School: Unstructured Data Management (2010 年全國研究生暑期學校, 國家自然科學基金委員會), 3 hours, 28 July, 2010. URL: <http://deke.ruc.edu.cn/summerschool/course.htm>
22. **Guest Editor, TKDE**, *Special Issues on Mining Large Uncertain and Probabilistic Databases*, published in September 2010
23. **Keynote Speaker** for the First International Workshop on Quality of Context (QuaCon'09)
24. **Speaker** for the Nanjing University Summer Advanced Seminar, July 9-10, 2009
25. **Organizer, the Big Data and Artificial Intelligence Workshop (BDAI)**, 6th April, 2019 (<https://cms-a.cs.hku.hk/hkubd2019/>)
26. **PC co-chair, IEEE ICDE 2021** (IEEE Intl. Conf. on Data Engineering)
27. **Vice chair, IEEE ICDE 2020** (IEEE Intl. Conf. on Data Engineering)
28. **PC co-chair, WISE 2019**
29. **Local organizing team member, IEEE ICDE 2019** (IEEE Intl. Conf. on Data Engineering)
30. **Senior PC member for APWeb-WAIM 2018**
31. **Area Chair in IEEE ICDE 2017** (IEEE Intl. Conf. on Data Engineering)
32. **Program Co-Chair for APWeb 2015** (The 17th Asia-Pacific Web Conference)

33. **Senior PC member** for **DASFAA 2015** (The 20th Intl. Conf. on Database Systems for Advanced Applications)
34. **Area Chair** for DB track (*Uncertain, Probabilistic, and Scientific Data Management*) in **CIKM 2014** (ACM Intl. Conference on Information and Knowledge Management)
35. **Area Chair** for *Crowdsourcing* in the 2nd edition of the Encyclopedia of Database Systems, edited by T. Oszu and L. Liu.
36. **Workshop Co-chair** for **ICDE 2014** (The 29th Intl. Conf. on Data Engineering)
37. **Registration Chair** for **MDM 2019**
38. **Publicity Chair** for **APWeb 2014** (The 16th Asia-Pacific Web Conference)
39. **Program Co-Chair** for **SSTD 2013** (The 13th Intl. Symposium on Spatial and Temporal Databases)
40. **Program Co-chair** for **1st PhD Symposium, PAKDD 2011** (Methodologies for Knowledge Discovery and Data Mining, Pacific-Asia Conference)
41. **Tutorial Co-chair** for **DASFAA 2011** (16th Intl. Conf. on Database Systems for Advanced Applications)
42. **Program Vice Chair** for **IWKDEWL 2010** (The Intl. Workshop on Knowledge and Data Engineering in Web-based Learning, in conjunction with the 9th Intl. Conf. on Web-based Learning (ICWL 2010))
43. **Registration Chair** for **CIKM 2009** (ACM 18th Conference on Information and Knowledge Management)
44. **Steering committee** for **MOUND 2010** (2nd Workshop on Management and Mining of Uncertain Data, with **ICDE 2010**)
45. **Program Co-chair** for **UMMM 2010** (1st Intl. Workshop on Uncertain Mobile Data Management and Mining, with **MDM 2010**)
46. **Program Co-chair** for **MOUND 2009** (1st Workshop on Management of Uncertain Data, with **ICDE 2009**)
47. **Program Co-chair** for **DUNE 2007** (1st Workshop on Data Mining of Uncertain Data, with **ICDM 2007**)
48. **Program Co-chair** for **WINPEN 2006** (Intl. Workshop on Information Processing over Evolving Networks, with **WAIM 2006**)
49. **Local Arrangement Chair** for **CIC 2006** (4th Intl. Conf. on Cooperative Internet Computing)
50. **Session Chair** for **VLDB 2010** (The 36th Intl. Conf. on Very Large Data Bases)
51. **Session Chair** for **ICDE 2010** (The 26th Intl. Conf. on Data Engineering)
52. **Session Chair** for **VLDB 2008** (The 34th Intl. Conf. on Very Large Data Bases)
53. **Session Chair** for **NPsec 2007** (The 3rd Workshop on Secure Network Protocols)
54. **Session Chair** for **WAIM 2006** (The 7th Intl. Conference on Web-Age Information Management)
55. **Session Chair** for **CIC 2006** (The 4th Intl. Conf. on Cooperative Internet Computing)
56. Regular member of **ACM**
57. Regular member of **IEEE**
58. Key member of Strategic-oriented Research Theme (**SORT**) on Artificial Intelligence to Advance Well-Being and Society, HKU
59. Member of ACM Special Interest Group on Management of Data (**ACM SIGMOD**)
60. Member of the IEEE Computer Society, Hong Kong section
61. Member of the Hong Kong Information Technology Joint Council (**HKITJC**)
62. **Member**, Independent Review Panel (for Learning Programme Re-accreditation), Hang Seng University, Jun 2020
63. **Reviewer** for National Science Award applications for China, 2019 – current.
64. **Reviewer** of funding proposal for the Netherlands Organization for Scientific Research (NWO), 2010
65. **Reviewer** of funding proposal for the Natural Sciences and Engineering, Research Council of Canada (NSERC), 2009, 2010, 2011, 2016
66. **Reviewer** of funding proposal for the Israel Science Foundation in 2017
67. **External Reviewer**, tenure-track Assistant Professor search for Nanyang Technological University, Singapore, 2018
68. **Thesis exam committee chair** for PhD defence for Ms. Xiaoyan Xiong on “Computational Electromagnetic Methods for Multiphysics Simulations”, University of Hong Kong (2015)
69. **Thesis exam committee chair** for PhD defence for Mr. Haojie Zhao on “Auction-Based Resource Allocation in Selfish Networks”, University of Hong Kong (2014)
70. **Internal examiner** for PhD defence for Mr. Liu Yu on “Latent Topic Mining in Social Media with Probabilistic Graphical Model”, University of Hong Kong (2017)
71. **External examiner** for PhD defence for Mr. Slava Novgorodov on "Expert-in-the-Loop in Data Management", Tel Aviv University (2019)

72. **External examiner** for MPhil defence for Mr. Wenkai Jiang on “Highly Efficient Distributed Hypergraph Analysis: Real-time Partitioning and Quantized Learning”, University of Melbourne, Australia (2018)
73. **Internal examiner** for PhD defence for Mr. Shuyao Qi on “Advanced Ranking Queries on Composite Data”, University of Hong Kong (2016)
74. **Internal examiner** for PhD defence for Ms. Wenting Tu on “User-generated Content based Recommendation Systems for Investment and E-commerce”, University of Hong Kong (2016)
75. **Internal examiner** for PhD defence for Mr. Yilun Cai on “Ranking and Similarity Queries on Complex Data Types”, University of Hong Kong (2015)
76. **Internal examiner** for PhD defence for Mr. Xinjie Zhu on “STAP: A parallel signal track analytical processing system for flexible and efficient analysis of genomic data”, University of Hong Kong (2015)
77. **External examiner** for PhD defence for Mr. Saket Sathe on "Statistical Models for Querying and Managing Time-series Data", EPFL, Switzerland (2013)
78. **Internal examiner** for PhD defence for Mr. Chenghui Ren on “Algorithms for Evolving Graph Analysis”, University of Hong Kong (2013)
79. **Internal examiner** for PhD defence for Mr. Ge Shen on “Advanced Analysis and Join Queries in Multidimensional Spaces”, University of Hong Kong (2012)
80. **Internal examiner** for MPhil defence for Mr. Fei Wang on “Complex Stock Trading Strategy Based on Parallel Particle Swarm Optimization”, University of Hong Kong (2012)
81. **Internal examiner** for MPhil defence for Mr. Ruirui Li on “A Probabilistic Approach to Diversified Query Recommendation”, University of Hong Kong (2012)
82. **External examiner** for PhD defence for Mr. D. Šidlauskason on “Processing Massive Update and Query Workloads in Main Memory”, Aalborg University, Denmark (2012)
83. **External examiner** for PhD defence for Mr. Kai Zheng on "Uncertainty Management in Spatio-temporal Database", the University of Queensland, Australia (2012)
84. **Internal examiner** for PhD defence for Mr. Haisheng Tang on “Minimizing Interference in Wireless Sensor Networks”, University of Hong Kong (2011)
85. **Internal examiner** for PhD defence for Mr. Chun Kit Chui on “OLAP on Sequence Data”, University of Hong Kong (2010)
86. **Internal examiner** for MPhil defence for Mr. Xinjie Zhu on “Mining Order-Preserving Submatrices from Data with Repeated Measurements”, University of Hong Kong (2010)
87. **Internal examiner** for MPhil defence for Mr. Bin Bi on “Third-order Tensor Decomposition for Search in Social Tagging Systems”, University of Hong Kong (2010)
88. **Internal examiner** for MPhil defence for Mr. Wang Liang, University of Hong Kong (2010)
89. **Internal examiner** for PhD defence for Mr. Thomas Yau-tat Lee on “Formalisms on Semi-Structured and Unstructured Data Schema Computations”, University of Hong Kong (2010)
90. **Internal examiner** for PhD defence for Mr. Leong Hou U on “Matching Problems in Large Databases”, University of Hong Kong (2010)
91. **Internal examiner** for MPhil defence for Mr. Yiwei Zhang on “SIGBOT: Signature-based Multiple-Bug Localization”, University of Hong Kong (2010)
92. **Internal examiner** for MPhil defence for Mr. Lee King For on “Clustering Uncertain Data Using Voronoi Diagram”, University of Hong Kong (2009)
93. **Internal examiner** for MPhil defence for Mr. Lin Zhifeng on “Advanced Spatial Queries in Wireless Ad Hoc Networks”, University of Hong Kong (2009)
94. **Internal examiner** for PhD defence for Mr. Ngai Wang Kay on “Cluster Analysis on Uncertain Data”, University of Hong Kong (2008)
95. **Internal examiner** for MPhil defence for Mr. Smith Tsang on "Efficient Decision Tree Building Algorithms for Uncertain Data", University of Hong Kong (2008)
96. **External examiner** for MPhil defence for Mr. Alan Kwan on "Adaptive Stream Filters for Entity-based Queries with Non-Value Tolerance", University of Hong Kong (2007)
97. **External examiner** for MPhil defence for Mr. Dai Xaingyuan on "Spatial Preference Queries based on Non-spatial Constraints", University of Hong Kong (2006)
98. **Judge** for IT competition May 2006, co-organized with the PC Weekly magazine.
99. **Question Designer** for the ACM Programming Contest, Hong Kong region, 2006.

100. **Program Committee Member for:**

Year 2021

- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data)
- **CODS-COMAD** (ACM India Joint Intl. Conf. on Data Science and Management of Data)

Year 2020

- **VLDB** (2020-21 review board for 47th Intl. Conf. on Very Large Data Base)
- **IJCAI-PRICAI** (Intl. Joint Conf. on Artificial Intelligence, **Senior PC**)
- **IEEE ICDE** (36th Intl. Conf. on Data Engineering, **Vice Chair**)
- **IEEE BigData** (2020 IEEE Intl. Conf. on Big Data)
- **KDD** (25th ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)
- **DASFAA** (25th Intl. Conf. on Database Systems for Advanced Applications)
- **APWeb-WAIM** (Senior PC) (Asia-Pacific Web Conference)
- **HILDA** (4th Workshop on Human-In-the-Loop Data Analytics, affiliated with SIGMOD 2020)

Year 2019

- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data)
- **VLDB** (2019-20 review board for 46th Intl. Conf. on Very Large Data Base)
- **IEEE ICDE** (35th Intl. Conf. on Data Engineering)
- **IJCAI** (Intl. Joint Conf. on Artificial Intelligence, **Senior PC**)
- **KDD** (25th ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)
- **ER** (38th Intl. Conf. on Conceptual Modeling)
- **SDM** (SIAM Intl. Conference on Data Mining)
- **DASFAA** (24th Intl. Conf. on Database Systems for Advanced Applications)
- **SSTD** (The 18th Intl. Symposium on Spatial and Temporal Databases)
- **VLDB Ph.D. workshop** (46th Intl. Conf. on Very Large Data Base)

Year 2018

- **VLDB** (2017-18 review board for 44nd Intl. Conf. on Very Large Data Base)
- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data)
- **IEEE ICDE** (34nd Intl. Conf. on Data Engineering)
- **KDD** (24th ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)
- **CIKM** (ACM 27th Conference on Information and Knowledge Management)
- **EDBT** (20th Intl. Conf. on Extending Database Technology)
- **IEEE BigData 2018** (Senior PC) (2018 IEEE Intl. Conf. on Big Data)
- **SUM** (12th Intl. Conf. on Scalable Uncertainty Management)
- **DSAA** (5th IEEE Intl. Conf. on Data Science and Advanced Analytics)
- **APWeb-WAIM** (Senior PC) (Asia-Pacific Web Conference)

Year 2017

- **VLDB** (2016-17 review board for 43rd Intl. Conf. on Very Large Data Base)
- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data)
- **CIKM** (ACM 26th Conference on Information and Knowledge Management, Long papers track)
- **WWW** (26th Intl. World Wide Web Conf.)
- **IEEE BigData 2017** (Senior PC) (2017 IEEE Intl. Conf. on Big Data)
- **SUM** (11th Intl. Conf. on Scalable Uncertainty Management)
- **HMDData** (1st IEEE Workshop on Human-Machine Collaboration in BigData, with IEEE Bigdata)

Year 2016

- **VLDB** (2015-16 review board for 42nd Intl. Conf. on Very Large Data Base)
- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data, demo track)
- **IEEE ICDE** (32nd Intl. Conf. on Data Engineering)
- **IJCAI** (Intl. Joint Conf. on Artificial Intelligence)
- **EDBT** (19th Intl. Conf. on Extending Database Technology)
- **KDD** (22nd ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)

- **CIKM** (ACM 25th Conference on Information and Knowledge Management, Database Track)
- **IEEE BigData** (2016 IEEE Intl. Conf. on Big Data)
- **HCOMP** (4th AAAI Conf. on Human Computation and Crowdsourcing)
- **GeoRich** (2nd Intl. ACM Workshop on Managing and Mining Enriched Geo-Spatial Data, with **SIGMOD 2016**)

Year 2015

- **VLDB** (2015-16 review board for 42nd Intl. Conf. on Very Large Data Base)
- **KDD** (The 21st ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)
- **CIKM** (ACM 24th Conference on Information and Knowledge Management, Database Track)
- **DASFAA** (Senior PC member; 20th Intl. Conf. on Database Systems for Advanced Applications)
- **SUM** (9th Intl. Conf. on Scalable Uncertainty Management)
- **SSTD** (The 14th Intl. Symposium on Spatial and Temporal Databases)
- **ACM SIGSPATIAL GIS** (23rd ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **IEEE BigData** (2015 IEEE Intl. Conf. on Big Data)
- **WAIM** (16th Intl. Conf. on Web-Age Information Management)
- **SocialInformatics** (2015 ASE Intl. Conf. on Social Informatics)
- **BDSI** (Intl. Workshop on Big Data Security Intelligence)

Year 2014

- **VLDB** (2013-14 review board for 40th Intl. Conf. on Very Large Data Base)
- **IEEE ICDE** (Intl. Conf. on Data Engineering)
- **DASFAA** (19th Intl. Conf. on Database Systems for Advanced Applications)
- **ACM SIGSPATIAL GIS** (22nd ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **WAIM** (15th Intl. Conf. on Web-Age Information Management)
- **BDSE** (The 3rd IEEE Intl. Conf. on Big Data Science and Engineering)
- **IEEE BigData** (2014 IEEE Intl. Conf. on Big Data)
- **BigData** (The 3rd IEEE Intl. Congress on BigData)
- **SISAP** (7th Intl. Conference on Similarity Search and Applications)
- **GeoRich** (1st Intl. ACM Workshop on Managing and Mining Enriched Geo-Spatial Data, with **SIGMOD 2014**)
- **HuMoComp** (The Intl. Workshop on Human Mobility Computing, with **MDM 2014**)
- **MobiGIS** (3rd ACM SIGSPATIAL Intl. Workshop on Mobile Geographic Information Systems)

Year 2013

- **SIGMOD** (ACM SIGMOD Intl. Conf. on Management of Data)
- **VLDB** (2012-13 review board for 39th Intl. Conf. on Very Large Data Base)
- **IEEE ICDE** (Intl. Conf. on Data Engineering, research program)
- **IEEE ICDE** (Intl. Conf. on Data Engineering, demo track)
- **KDD** (The 19th ACM SIGKDD Conf. on Knowledge, Discovery, and Data Mining)
- **DASFAA** (18th Intl. Conf. on Database Systems for Advanced Applications)
- **DEXA** (The 24th Conf. on Database and Expert Systems Applications)
- **ACM SIGSPATIAL GIS** (21st ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **BDDS** (The 2nd IEEE Intl. Conf. on Big Data and Distributed Systems)
- **MDM** (Intl. Conf. on Mobile Data Management)
- **WAIM** (14th Intl. Conf. on Web-Age Information Management)
- **AICCSA** (“Big Data, Business, Analytics” track, ACS/IEEE Intl. Conf. on Computer Systems and Applications)
- **HuMoComp** (The Intl. Workshop on Human Mobility Computing, with **MDM 2013**)
- **MoDA** (The 1st Intl. Workshop on Mobile Data Analytics, with **ICDE 2013**)
- **MobiGIS** (2nd ACM SIGSPATIAL Intl. Workshop on Mobile Geographic Information Systems)

Year 2012

- **VLDB** (2012-13 review board for 39th Intl. Conf. on Very Large Data Base)
- **VLDB** (2011-12 review board for 38th Intl. Conf. on Very Large Data Base, Istanbul, Turkey, August 2012)
- **CIKM** (ACM 19th Conference on Information and Knowledge Management)
- **DASFAA** (17th Intl. Conf. on Database Systems for Advanced Applications)

- **DEXA** (The 23rd Conf. on Database and Expert Systems Applications)
- **ACM SIGSPATIAL GIS** (20th ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **SUM** (6th Intl. Conf. on Scalable Uncertainty Management)
- **APWeb** (The 14th Asia-Pacific Web Conference)
- **KMIS** (Intl. Conf. on Knowledge Management and Information Sharing)
- **AINA** (The 26th IEEE Intl. Conf. on Advanced Information Networking and Applications, Pervasive/Ubiquitous Computing and Services Track, 2012)
- **QeST** (3rd ACM SIGSPATIAL Intl. Workshop on Querying and Mining Uncertain Spatio-Temporal Data)
- **LBSN** (4th ACM SIGSPATIAL Intl. Workshop on Location-Based Social Networks)
- **MobiGIS** (1st ACM SIGSPATIAL Intl. Workshop on Mobile Geographic Information Systems)
- **PAISI** (The Pacific-Asia Workshop on Intelligence and security Informatics)

Year 2011

- **VLDB** (2011-12 review board for 38th Intl. Conf. on Very Large Data Base, Istanbul, Turkey, August 2012)
- **IEEE ICDE** (Intl. Conf. on Data Engineering, 2011, text, uncertain and probabilistic data track)
- **DASFAA** (16th Intl. Conf. on Database Systems for Advanced Applications)
- **DEXA** (The 22nd Conf. on Database and Expert Systems Applications)
- **ACM SIGSPATIAL GIS** (19th ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **WWW** (World Wide Web 2011 Poster Track)
- **KMIS** (Intl. Conf. on Knowledge Management and Information Sharing)
- **SUM** (5th Intl. Conf. on Scalable Uncertainty Management)
- **SPRINGL** (The 4th Intl. Workshop on Security and Privacy in GIS and LBS, with **ACM SIGSPATIAL 2011**)
- **QeST** (2nd ACM SIGSPATIAL Intl. Workshop on Querying and Mining Uncertain Spatio-Temporal Data)
- **APWeb** (The 13th Asia-Pacific Web Conference)
- **PAISI** (The Pacific-Asia Workshop on Intelligence and security Informatics)
- **DaMEN** (The 1st Workshop on Data Management for Emerging Network Infrastructures, with **DASFAA11**)

Year 2010

- **VLDB** (36th Intl. Conf. on Very Large Data Base)
- **IEEE ICDE** (Intl. Conf. on Data Engineering, 2010, text and uncertain data track)
- **ACM SIGMOD** (ACM Conf. on Management of Data, tutorial committee)
- **CIKM** (ACM 19th Conference on Information and Knowledge Management)
- **ACM SIGSPATIAL GIS** (18th ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **DASFAA** (15th Intl. Conf. on Database Systems for Advanced Applications, Demonstration Track)
- **DEXA** (The 21th Conf. on Database and Expert Systems Applications)
- **WAIM** (10th Intl. Conf. on Web-Age Information Management)
- **KMIS** (Intl. Conf. on Knowledge Management and Information Sharing)
- **EUC** (The IFIP Intl. Conf. on Embedded and Ubiquitous Computing, Multimedia and data management)
- **SUM** (4th Intl. Conf. on Scalable Uncertainty Management)
- **SPRINGL** (The 3rd Intl. Workshop on Security and Privacy in GIS and LBS, with **ACM GIS 2010**)
- **PAISI** (The Pacific-Asia Conf. on Intelligence and security Informatics)

Year 2009

- **CIKM** (ACM 18th Conference on Information and Knowledge Management)
- **DEXA** (The 20th Conf. on Database and Expert Systems Applications)
- **SSTD** (The 11th Intl. Symposium on Spatial and Temporal Databases)
- **ACM GIS** (The 17th ACM SIGSPATIAL Intl. Conf. on Advances in Geographic Information Systems)
- **C3S2E** (The 2nd Conference on Computer Science & Software Engineering)
- **CSE** (The 12th IEEE Intl. Conference on Computational Science and Engineering)
- **APWeb-WAIM** (The Joint Intl. Conf. on Asia-Pacific Web Conference (APWeb) and Web-Age Information Management (WAIM))
- **EUC** (The IFIP Intl. Conf. on Embedded and Ubiquitous Computing)
- **WISM** (The 2009 Intl. Conf. on Web Information Systems and Mining)
- **Quacon** (1st Workshop on Quality of Context, Stuttgart University, 2009)

- **QeST** (1st Intl. Workshop on Querying and Mining Uncertain Spatio-Temporal Data, with **ACM GIS**)
- **SSPS** (3rd Intl. Workshop on Scalable Stream Processing Systems, co-located with **IPDPS 2008**)
- **SPRINGL** (The 2nd Intl. Workshop on Security and Privacy in GIS and LBS, with **ACM GIS**)
- **U'09** (1st ACM SIGKDD Workshop on Knowledge Discovery from Uncertain Data)
- **PAISI** (The Pacific-Asia Conf. on Intelligence and security Informatics)

Year 2008

- **VLDB** (34th Intl. Conf. on Very Large Data Base)
- **DEXA** (The 19th Conf. on Database and Expert Systems Applications)
- **DASFAA** (13th Intl. Conf. on Database Systems for Advanced Applications, Demonstration Track)
- **IDEAS** (12th Intl. Database Engineering & Applications Symposium)
- **ACM GIS** (The 16th ACM Intl. Conf. on Advances in Geographic Information Systems 2008)
- **ACM GIS PhD Showcase Workshop** (for 16th ACM GIS 2008)
- **SSDBM** (20th Intl. Conf. on Scientific and Statistical Database Management)
- **WAIM** (9th Intl. Conf. on Web-Age Information Management)
- **APWeb** (10th Asia Pacific Web Conference)
- **ECDM** (The 2nd IADIS European Conference on Data Mining)
- **IEEE EDOC** (The 12th Enterprise Computing Conference)
- **EUC** (The IFIP Intl. Conf. on Embedded and Ubiquitous Computing)
- **PAISI** (The Pacific-Asia Conf. on Intelligence and security Informatics)
- **CSE** (9th Intl. Conf. on Computational Science and Engineering, Distributed Database and Data Mining)
- **SPRINGL2008** (The 1st Intl. Workshop on Security and Privacy in GIS and LBS, with **ACM GIS**)
- **MMSDE** (1st Intl. Workshop on Mining Multimedia Streams in a Large-scale Distributed Environments, co-located with **ICDE 2008**)
- **SSTDM** (Workshop on Mining Spatial and Spatio-temporal Data, in conjunction with the IEEE Intl. Conference on Data Mining (**ICDM 2008**))
- **SSPS** (2nd Intl. Workshop on Scalable Stream Processing Systems, co-located with **EDBT 2008**)
- **PALMS** (The 2nd Intl. Workshop on Privacy-Aware Location-based Mobile Services)
- **IDAR** (SIGMOD PhD Workshop on Innovative Database Research)
- **PiIBA** (Intl. Workshop on Privacy in Location-Based Applications, co-located with the 13th European Symposium on Research in Computer Security (**ESORICS 2008**))

Year 2007

- **IDEAS** (11th Intl. Database Engineering & Applications Symposium)
- **APWeb/WAIM** (Joint Conf. of the 9th Asia-Pacific Web Conf. and the 8th Intl. Conf. on Web-Age Information Management)
- **DBMAN** (Intl. Workshop on Database Management and Application over Networks in WAIM 2007)
- **AICCSA** (ACS/IEEE Intl. Conference on Computer Systems and Applications)
- **ECDM** (The 1st IADIS European Conference on Data Mining)
- **IEEE EDOC** (The 11th Enterprise Computing Conference)
- **SSTD** (The Intl. Symposium on Spatial and Temporal Databases)
- **SSPS** (1st Intl. Workshop on Scalable Stream Processing Systems, co-located with ICDE)
- **EUC** (The IFIP Intl. Conf. on Embedded and Ubiquitous Computing)
- **PAISI** (The Pacific-Asia Conf. on Intelligence and security Informatics)
- **PALMS** (The 1st Intl. Workshop on Privacy-Aware Location-based Mobile Services)
- **HICA-07** (Hybrid Intelligent Computing and its Application, co-located with ICNC '07)
- **SSTDM** (Workshop on Mining Spatial and Spatio-temporal Data, in conjunction with the IEEE Intl. Conference on Data Mining (**ICDM 2007**))

Year 2006

- **SSTDM** (Workshop on Mining Spatial and Spatio-temporal Data, in conjunction with the IEEE Intl. Conference on Data Mining (**ICDM 2006**))
- **COMAD** (The 13th Intl. Conf. on Management of Data)
- **CIC** (The 4th Intl. Conf. on Cooperative Internet Computing)

- **IEEE TENCON** (IEEE Intl. Region 10 Conference)
- **IEEE EDOC** (The 10th Enterprise Computing Conference)
- **WAIM** (The 7th Intl. Conference on Web-Age Information Management)
- **XWICT** (the 1st Intl. Workshop on XML, Web, and Internet Contents Technologies, in **WAIM 2006**)

101. **Reviewer for the following journals/books:**

- **TWEB** (Transactions on the Web, 2019)
- **VLDBJ** (Very Large Databases Journal, 2008, 2009,2011, 2013-15)
- **IEEE TKDE** (Transactions on Knowledge and Data Engineering, 2007-17)
- **DAPD** (Distributed and Parallel Databases Journal, 2012, 2015)
- **DKE** (Data and Knowledge Engineering, 2009, 2011)
- **IS** (Information Systems Journal, 2007, 2009-12, 2015, 2017)
- **IEEE TC** (Transactions on Computer, 2007, 2011, 2012, 2014, 2015)
- **Geoinformatica** (2015)
- **SpringerPlus** (2016)
- **IJSS** (International Journal of Systems Science, 2011)
- **FCS** (Frontiers of Computer Science, 2011)
- **ACM TODS** (Transactions on Database Systems, 2008-10, 2012, 2015)
- **TCS** (Theoretical Computer Science, 2015)
- **ACM TSAS** (Transactions on Spatial Algorithms and Systems, 2014)
- **IJBDSI** (International Journal of Big Data Security Intelligence, 2015)

- **TDP** (Transactions on Data Privacy: Foundations and Technologies, 2012-13)
- **JISE** (Journal of Information Science and Engineering, 2010)
- **JCST** (Journal of Computer Science and Technology, 2008, 2009, 2010)
- **IJSS** (International Journal of Systems Science, 2011)
- **PEVA** (Performance Evaluation, 2009)
- **DAPD – Special Issue on Ranking Databases** (Distributed and Parallel Databases Journal 2008, 2010)
- **KAIS** (Knowledge and Information System Journal 2008, 2013)
- **IJA** (Intl. Journal of Approximate Reasoning, 2010)
- **EIS** (Enterprise Information Systems, 2008)
- **IEEE TSC** (Transactions on Service Computing, 2008)
- **IEEE TMC** (Transactions on Mobile Computing, 2006)
- **IEEE ToN** (Transactions on Networking, 2007)
- **IPL** (Information Processing Letters)
- **WWWJ** (World Wide Web Journal)
- **Encyclopedia of Computer Science & Engineering**, Prof. Benjamin Wah (Ed), John Wiley & Sons, 2007

102. **External Reviewer for the following conferences:**

- **PODS 2012** (31st ACM Principles of Database Systems)
- **KDD 2011** (17th ACM SIGKDD Conference on Knowledge Discovery and Data Mining)
- **SIGMOD 2010** (ACM Special Interest Group on Management of Data)
- **ICPP 2008** (37th Intl. Conf. on Parallel Processing)
- **Percom 2008** (6th IEEE Intl. Conf. on Pervasive Computing and Communications)
- **ICITM 2007** (Intl. Conf. on Information Technology and Management)
- **VLDB 2006** (Very Large DataBases Conf.)
- **IEEE ICDE 2004 - 06** (Intl. Conf. on Data Engineering)
- **ICDM 2006** (Intl. Conf. on Data Mining)
- **7th ACM Postgraduate Research Day (Hong Kong)**
- **MDM 2005** (Intl. Conf. on Mobile Data Management)
- **DASFAA 2001, 05, 06** (Database Systems for Advanced Applications)
- Book chapter review for **DB Encyclopedia 2005**
- **DMSN 2004** (Intl. Workshop on Data Management for Sensor Networks)
- **IEEE SCC 2004** (Intl. Conf. on Services Computing)

- **PDCAT 2001** (Intl. Conf. on Parallel and Distributed Computing, Applications, and Techniques)
 - **RTCSA 2000** (Intl. Workshop on Real-Time Computing Systems and Applications)
103. Elected as **Faculty Search Committee Representative** of Graduate Student Board, responsible for assisting faculty search process, holding job-search seminars, and discussions with faculty candidates (2004-05).
 104. Elected as **Database Group Representative** for communicating between the database group, the department, and other research groups, publishing research newsletter and hosting seminars for visiting speakers (2002-04).
 105. Elected as **Graduate Committee Representative** of Graduate Student Board, for communicating with faculties about student affairs. Organizing orientation activities for prospective and new students (2003-04).
 106. Elected as the **Secretary** of the Upsilon Pi Epsilon Honor Society for Computer Science, Purdue Chapter for helping in activities like induction ceremony and discussion with honor students (2003-04).
 107. Elected as **Head Demonstrator** in the University of Hong Kong for planning teaching assistants' teaching assignments, organizing departmental seminars and extracurricular activities (1998-01).
 108. **Student helper** for the ACM Programming Contest, Hong Kong in 2001.
 109. **Student helper** for the 10th World Wide Web Conference, Hong Kong.

Honors and Awards

1. Elected Fellow of **Institute of Transport Studies**, the University of Hong Kong, 2018.
2. Visiting Research Professors Scheme 2020-23, for the visit of Prof. Sihem Amer-Yahia of the Laboratoire d'Informatique de Grenoble, France (HKD 399,000).
3. Outstanding reviewer award, 35th IEEE Intl. Conf. on Data Engineering (**IEEE ICDE 2019**), Macau SAR, China, Apr 2019.
4. **William Mong Visiting Research Fellowship 2018-19**, with Prof. Berti-Equille from University of Aix-Marseille, France, on "*OGC: On-demand Graph Cleaning*".
5. **William Mong Visiting Research Fellowship 2015-16**, with Prof. H. V. Jagadish from University of Michigan, on "*Data Ethics: A Socio-Technical Framework for Doing Big Data Right*".
6. **Outstanding Young Researcher Award 2011-12**, the University of Hong Kong (granted a funding of HKD 300,000 and a research postgraduate student position), awarded on 27th March, 2013.
7. **William Mong Visiting Research Fellowship 2011-12**, with Prof. Divyakant Agrawal from University of California, Santa Barbara, on "*An Uncertain Database System for Cloud Environments*".
8. **Prize Presentation Ceremony 2010-11**, Faculty of Engineering, November 2011 (for recognition of excellence in research activities).
9. **Universitas 21 Fellowship 2011-12** (for visiting the National University of Singapore in July-August 2011, with an award amount of HKD 50,000).
10. **Research Output Prize** in Department of Computer Science, on the journal article entitled "*Scalable processing of snapshot and continuous nearest-neighbor queries over one-dimensional uncertain data*", with a monetary award of HK\$60,000, awarded by the Faculty of Engineering, HKU, 2010.
11. **Outstanding Service Award** (as Registration Chair), in the ACM 18th Conference on Information and Knowledge Management (CIKM), November 2-6, 2009, Hong Kong.
12. **Performance Reward**, Department of Computing, Hong Kong Polytechnic University, 2007.
13. **Performance Reward**, Department of Computing, Hong Kong Polytechnic University, 2006.
14. Microsoft sponsorship for attendance to the 6th Workshop on Privacy Enhancing Technologies in PET 2006.
15. Member, Upsilon Pi Epsilon (**UPE**) Honor Society for Computer Science, Purdue Chapter, 2003
16. Travel Grant Award for 1st Intl. Workshop on Data Management for Sensor Networks (**DMSN**) in VLDB 2004
17. **Dean's List**, Purdue University for outstanding academic achievements, 2001 – 2004
18. Runner-up for **IT Innovation Award**, University of Hong Kong, for a study project about the use of IT for education development in Singapore, 2001
19. Runner-up for Open Category in the **Web Design Competition** in Hong Kong, for designing a website about free economy of Hong Kong, 2000
20. Graduate of the **Leadership and Life Skills** Class in the University of Hong Kong, a one-year course for leadership and social skill development, 2000 – 2001
21. **Best Paper Award** for the paper "*Updates and View Maintenance in Soft Real-Time Database Systems*" in the 2nd ACM Hong Kong Postgraduate Research Day, 1999
22. **Dean's List**, the University of Hong Kong for outstanding achievements, 1995-1998
23. **First Class Honor** (Bachelor of Engineering), the University of Hong Kong, 1998

25-Sep-20