

# Curriculum Vitae

## Xiang Lian

(PhD, HKUST, 2009)

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## PERSONAL INFORMATION

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**First Name:** Xiang

**Gender:** Male

**Surname:** Lian

**Nationality:** China (Permanent Resident of Hong Kong and USA)

## EDUCATION

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- **PhD** in Computer Science and Engineering, Advisor: Dr. Lei Chen **Sept., 2003 ~ Aug., 2009**  
Department of Computer Science and Engineering  
*The Hong Kong University of Science and Technology*, Hong Kong, China
- **Bachelor** in Computer Science **Sept., 1999 ~ Jun., 2003**  
Department of Computer Science and Technology  
*Nanjing University*, Nanjing, Jiangsu, China

## RESEARCH INTERESTS

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My main research interest is in databases. In particular, I am interested in query processing over:

- Probabilistic, inconsistent, and uncertain databases;
- Uncertain and certain graph databases;
- Streaming time series;
- Spatio-temporal databases, and;
- Spatial crowdsourcing.

## WORK EXPERIENCE

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- **Assistant Professor**, *Kent State University*, **Sept., 2016 ~ present**
- **Assistant Professor**, *University of Texas Rio Grande Valley (Edinburg Campus; Former Name: University of Texas - Pan American)*, **Sept., 2011 ~ Aug., 2016**
- **Research Assistant Professor**, *HKUST Fok Ying Tung Graduate School*, **Sept., 2010 ~ Sept., 2011**
- **Post-Doctoral Fellow**, *the Hong Kong University of Science and Technology*, **Sept., 2009 ~ Sept., 2011**
- **Research Assistant**, *the Hong Kong University of Science and Technology*, **Spring, 2009**
- **Research Assistant**, *the Hong Kong University of Science and Technology*, **Fall, 2008**
- **Research Assistant**, *the Hong Kong University of Science and Technology*, **Fall, 2007**
- **Research Assistant**, *the Hong Kong University of Science and Technology*, **Fall, 2005**

## AWARDS AND GRANTS

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1. **Ohio Department of Higher Education**, Javed I Khan (PI), **Xiang Lian (Key Person)**, "Choose Ohio First CS Scholarships: Building High Demand 21st-Century Workforce Development in Big-Data, Cyber Security & Privacy, AI, Smart Systems and Devices, and other cutting edge Computer Science", *Kent State University*, Kent, Ohio, USA,

- 2020-2025, \$4,456,300;
2. **Best Paper Candidate**, "Probabilistic Maximum Range-Sum Queries on Spatial Database", the *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL'19)*, Chicago, Illinois, USA, **Nov. 5-8, 2019**;
  3. **2019 Summer Research and Creative Activity Appointment, Xiang Lian (PI)**, "Incidence Detection of Cyberbullying Over Social Networks", *Kent State University*, Kent, Ohio, USA, **Summer 2019, \$10,000**;
  4. **National Science Foundation (NSF)**, Ye Zhao (PI), **Xiang Lian (Co-PI)**, "SI2-SSE:GeoVisuals Software: Capturing, Managing, and Utilizing GeoSpatial Multimedia Data for Collaborative Field Research", *Kent State University*, Kent, Ohio, USA, **2017-present, \$500,000**;
  5. **Undergraduate Research Initiative (URI)**, **Xiang Lian (supervisor)** and Ms. Janette Garcia (undergraduate student), "Probabilistic Transitive Nearest Neighbor Queries on Road Networks", *University of Texas Rio Grande Valley*, Edinburg, Texas, USA, **Feb., 2016, \$2,000**;
  6. **Grant of the Faculty Research Council (FRC)**, **Xiang Lian (PI)**, "Efficient and Accurate Query Processing on Road Networks with Dynamic and Uncertain Traffic Conditions", *University of Texas Rio Grande Valley*, Edinburg, Texas, USA, **Feb., 2015, \$4,969.66**;
  7. **Departmental Research Travel Grant**, *ACM Conference on Information and Knowledge Management (CIKM'13)*, San Francisco, CA, USA, Oct. 27 - Nov. 1, 2013;
  8. **Grant of the Faculty Research Council (FRC)**, **Xiang Lian (PI)**, "Search Your University", *University of Texas – Pan American*, Edinburg, Texas, USA, **Feb., 2012, \$5,000**;
  9. **The HKIE Outstanding Paper Award for Young Engineers and Researchers**, "Efficient Pattern Matching over Uncertain Data Streams", *Hong Kong Institution of Engineers (HKIE)*, Hong Kong, China, **Sept., 2009**;
  10. **Best Paper Award**, "Inverse Ranking Queries over Uncertain Data", *International Conference on Database Systems for Advanced Applications (DASFAA)*, Brisbane, Australia, **Apr., 2009**;
  11. **Research Travel Grant**, *Very Large Data Bases Conference (VLDB'10)*, Singapore, **Sept., 2010**;
  12. **Research Travel Grant**, *ACM Conference on the Management of Data (SIGMOD'10)*, Indianapolis, Indiana, USA, **Mar., 2010**;
  13. **Research Travel Grant**, *ACM Conference on the Management of Data (SIGMOD'08)*, Vancouver, Canada, **Jun., 2008**;
  14. **Research Travel Grant**, *International Conference on Data Engineering (ICDE'07)*, Istanbul, Turkey, **Dec., 2006**;
  15. **Postgraduate Studentships**, *The Hong Kong University of Science and Technology*, Hong Kong, China, **2003 ~ 2009**;
  16. **People Scholarships**, *Nanjing University*, China, **2000 ~ 2002**;
  17. **IBM WSAD Certification**, *Nanjing University*, China, **2002**;
  18. **China Undergraduate Mathematical Contest in Modeling (CUMCM)**, the third prize (Jiangsu Province), *Nanjing University*, China, **2002**;
  19. **China Undergraduate Mathematical Contest in Modeling (CUMCM)**, the first prize (Jiangsu Province), *Nanjing University*, China, **2001**;
  20. **The Competition of CKC Chinese Input System**, the third prize, *Nanjing University*, China, **2000**.

### Student Awards and Achievements

1. **Weilong Ren, Ph.D., University Fellowship**, *Kent State University*, Kent, Ohio, USA, **2020-2021**;
2. **Weilong Ren, Ph.D., SIGIR Student Travel Grant**, \$1,000, *SIGIR*, **2019**;
3. **Weilong Ren, Ph.D., Presentation of a CIKM 2019 Conference Paper** entitled "Efficient Join Processing Over Incomplete Data Streams", *Beijing, China*, **2019**.

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**BOOKS AND BOOK CHAPTERS (Google Scholar Citation: 2695; h-index: 28)**


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**Book and Workshop Statistics: Book - 1; Book Chapter - 1****Year 2018**

1. **Xiang Lian**. Uncertain Data Streams. In *Encyclopedia of Database Systems (2nd ed.)*, 2018. URL: [https://link.springer.com/referenceworkentry/10.1007%2F978-1-4614-8265-9\\_80691](https://link.springer.com/referenceworkentry/10.1007%2F978-1-4614-8265-9_80691).

**Year 2012**

2. Lei Chen and **Xiang Lian**. Query Processing over Uncertain Databases (Book; DOI number: doi:10.2200/S00465ED1V01Y201212DTM033). In *Synthesis Lectures on Data Management*, Vol. 4, No. 6, pages 1-101, Morgan & Claypool Publishers, December, 2012.

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**REFEREED JOURNAL ARTICLES**


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**Journal Statistics: TODS - 1; VLDBJ - 6; IEEE TKDE - 26; TPDS - 1; INS - 3; IS - 3; JWS - 1; FCS - 1; HKIE Transactions - 1; TSC - 1****Year 2020**

3. Ahmed Al-Baghdadi, **Xiang Lian**, and En Cheng. Efficient Path Routing Over Road Networks in the Presence of Ad-Hoc Obstacles. In *Information Systems (IS)*, 88, 2020.
4. Yue Wang, **Xiang Lian**, Lei Chen, Yulin Che, Qiong Luo. Fast and Accurate SimRank Computation via Forward Local Push and Its Parallelization. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2020.
5. Fangda Guo, Ye Yuan, Guoren Wang, Lei Chen, **Xiang Lian**, and Zimeng Wang. Cohesive Group Nearest Neighbor Queries on Road-Social Networks under Multi-Criteria. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2020.

**Year 2019**

6. Weilong Ren, **Xiang Lian**, and Kambiz Ghazinour. Skyline Queries Over Incomplete Data Streams. In *Very Large Data Bases Journal (VLDBJ)*, 2019.
7. Ye Yuan, **Xiang Lian**, Lei Chen, Guoren Wang, Jeffery Xu Yu, Yishu Wang, and Yuliang Ma. GCACHE: Neighborhood-Guided Graph Caching in a Distributed Environment. In *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 2019.
8. Peng Cheng, **Xiang Lian**, Xun Jian, and Lei Chen. FROG: A Fast and Reliable Crowdsourcing Framework. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 31(5), pages 894-908, 2019.
9. Liang Li, Guoren Wang, Gang Wu, Ye Yuan, Lei Chen, and **Xiang Lian**. A Comparative Study of Consistent Snapshot Algorithms for Main-Memory Database Systems. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2019.

**Year 2018**

10. Yu Gao, Shaoxu Song, Xiaochen Zhu, Jianmin Wang, **Xiang Lian**, and Lei Zou. Matching Heterogeneous Event Data. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 30(11), pages 2157-2170, 2018.
11. Yubao Wu, Xiang Zhang, Yuchen Bian, Zhipeng Cai, **Xiang Lian**, Xueting Liao, Fengpan Zhao. Second-Order Random Walk-based Proximity Measures in Graph Analysis: Formulations and Algorithms. In *Very Large Data Bases Journal (VLDBJ)*, 27(1), pages 127-152, 2018.
12. Wengen Li, Jihong Guan, **Xiang Lian**, Shuigeng Zhou, and Jiannong Cao. Probabilistic Time-Constrained Paths Search over Uncertain Road Networks. In *IEEE Transactions on Services Computing (TSC)*, 11(2), pages 399-414, 2018.

**Year 2017**

13. Ye Yuan, **Xiang Lian**, Lei Chen, Jeffery Xu Yu, Guoren Wang, and Yongjiao Sun. Keyword Search over Distributed Graphs with Compressed Signature. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 29(6),

pages 1212-1225, 2017.

#### Year 2016

14. **Xiang Lian** and Lei Chen. Quality-Aware Subgraph Matching Over Inconsistent Probabilistic Graph Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(6), pages 1560-1574, 2016.
15. Weiguo Zheng, **Xiang Lian**, Lei Zou, Liang Hong, and Dongyan Zhao. Online Subgraph Skyline Analysis Over Knowledge Graphs. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(7), pages 1805-1819, 2016.
16. Ye Yuan, **Xiang Lian**, Lei Chen, Yongjiao Sun, and Guoren Wang. RSkNN:  $k$ NN Search on Road Networks by Incorporating Social Influence. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(6), pages 1575-1588, 2016.
17. Peng Cheng, **Xiang Lian**, Lei Chen, Jinsong Han, and Jizhong Zhao. Task Assignment on Multi-Skill Oriented Spatial Crowdsourcing. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(8), pages 2201-2215, 2016.

#### Year 2015

18. **Xiang Lian**, Lei Chen, and Zi Huang. Keyword Search Over Probabilistic RDF Graphs. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(5), pages 1246-1260, 2015.
19. Liang Hong, Lei Zou, **Xiang Lian**, and Philip S. Yu. Subgraph Matching with Set Similarity in a Large Graph Database. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(9), pages 2507-2521, 2015.
20. Weiguo Zheng, Lei Zou, **Xiang Lian**, Dong Wang, and Dongyan Zhao. Efficient Graph Similarity Search over Large Graph Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(4), pages 964-978, 2015.

#### Year 2014

21. **Xiang Lian** and Lei Chen. Trip Planner Over Probabilistic Time-Dependent Road Networks. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 26(8), pages 2058-2071, 2014.
22. Weiguo Zheng, Lei Zou, **Xiang Lian**, Huaming Zhang, Wei Wang, and Dongyan Zhao. SQBC: An Efficient Subgraph Matching Method Over Large and Dense Graphs. In *Information Sciences (INS)*, 261, pages 116-131, 2014.

#### Year 2013

23. **Xiang Lian** and Lei Chen. Probabilistic Top- $k$  Dominating Queries in Uncertain Databases. In *Information Sciences (INS)*, 226, pages 23-46, 2013.
24. **Xiang Lian**, Eugenio De Hoyos, Artem Chebotko, Bin Fu, and Christine Reilly.  $k$ -Nearest Keyword Search in RDF Graphs. In *Journal of Web Semantics (JWS)*, 22, pages 40-56, 2013.

#### Year 2012

25. **Xiang Lian** and Lei Chen. Subspace Similarity Search Under  $L_p$ -Norm. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 24(2), pages 365-382, 2012.
26. **Xiang Lian** and Lei Chen. Efficient Processing of Probabilistic Group Subspace Skyline Queries in Uncertain Databases. In *Information Systems (IS)*, 38(3), pages 265-285, 2012.
27. Xiaofeng Ding, **Xiang Lian**, Lei Chen, and Hai Jin. Continuous Monitoring of Skylines Over Uncertain Data Streams. *Information Sciences (INS)*, 184(1), pages 196-214, 2012.

#### Year 2011

28. **Xiang Lian** and Lei Chen. Shooting Top- $k$  Stars in Uncertain Databases. In *Very Large Data Bases Journal (VLDBJ)*, 20(6), pages 819-840, 2011.
29. **Xiang Lian** and Lei Chen. Probabilistic Inverse Ranking Queries in Uncertain Databases. In *Very Large Data Bases Journal (VLDBJ)*, 20(1), pages 107-127, 2011.
30. **Xiang Lian** and Lei Chen. Similarity Join Processing on Uncertain Data Streams. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 23(11), pages 1718-1734, 2011.

31. **Xiang Lian**, Lei Chen, and Guoren Wang. Finding the Least Influenced Set in Uncertain Databases. In *Information Systems (IS)*, 36(2), pages 359-385, 2011.
32. Ke Yi, **Xiang Lian**, Feifei Li, and Lei Chen. The World in a Nutshell: Concise Range Queries. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 23(1), pages 139-154, 2011.

**Year 2010**

33. **Xiang Lian** and Lei Chen. Reverse Skyline Search in Uncertain Databases. In *ACM Transactions on Database Systems (TODS)*, 35(1), 2010.
34. **Xiang Lian** and Lei Chen. Ranked Query Processing in Uncertain Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 22(3), pages 420-436, 2010.
35. Lei Chen, Mitchell Tseng, and **Xiang Lian**. Development of foundation models for Internet of Things. In *Frontiers of Computer Science (FCS)*, 4(3), pages 376-385, 2010.

**Year 2009**

36. **Xiang Lian** and Lei Chen. Efficient Processing of Probabilistic Reverse Nearest Neighbor Queries over Uncertain Data. In *Very Large Data Bases Journal (VLDBJ)*, 18(3), pages 787-808, 2009.
37. **Xiang Lian** and Lei Chen. Efficient Similarity Join over Multiple Stream Time Series. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(11), pages 1544-1558, 2009.
38. **Xiang Lian** and Lei Chen. General Cost Models for Evaluating Dimensionality Reduction in High Dimensional Spaces. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(10), pages 1447-1460, 2009.
39. **Xiang Lian**, Lei Chen, Jeffrey Xu Yu, Jinsong Han, and Jian Ma. Multi-Scale Representations for Fast Pattern Matching in Stream Time Series. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(4), pages 568-581, 2009.
40. Lei Chen and **Xiang Lian**. Efficient Processing of Metric Skyline Queries. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(3), pages 351-365, 2009.
41. **Xiang Lian** and Lei Chen. Efficient Pattern Matching over Uncertain Data Streams (*The HKIE Outstanding Paper Award*). In the *HKIE Transactions*, 16(4), pages 9-18, 2009.

**Year 2008**

42. **Xiang Lian** and Lei Chen. Probabilistic Group Nearest Neighbor Queries in Uncertain Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 20(6), pages 809-824, 2008.
43. **Xiang Lian** and Lei Chen. Efficient Similarity Search over Future Stream Time Series. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 20(1), pages 40-54, 2008.
44. Lei Chen and **Xiang Lian**. Efficient Similarity Search in Nonmetric Spaces with Local Constant Embedding. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 20(3), pages 321-336, 2008.

**Year 2007**

45. Yufei Tao, **Xiang Lian**, Dimitris Papadias, and Marios Hadjieleftheriou. Random Sampling for Continuous Streams with Arbitrary Updates. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 19(1), pages 96-110, 2007.
46. Yufei Tao, Dimitris Papadias, **Xiang Lian**, and Xiaokui Xiao. Multidimensional Reverse  $k$ NN Search. In *Very Large Data Bases Journal (VLDBJ)*, 16(3), pages 293-316, 2007, invited submission from best of VLDB 2004.

**REFEREED CONFERENCE PUBLICATIONS**

*Conference Statistics: ACM SIGMOD - 6; PVLDB - 6; IEEE ICDE - 12; EDBT - 3; ACM CIKM - 6; ACM SIGSPATIAL - 1; DASFAA - 2; SSDBM - 2; CSCI - 1*

**Year 2019**

47. Ye Yuan, **Xiang Lian**, Guoren Wang, Yuliang Ma, and Yishu Wang. Constrained Shortest Path Query in a Large Time

Dependent Graph. In Proceedings of the *Very Large Data Bases Conference (PVLDB'19)*, 2019.

48. Fangda Guo, Ye Yuan, Guoren Wang, Lei Chen, **Xiang Lian**, Zimeng Wang. Cohesive Group Nearest Neighbor Queries over Road-Social Networks. In Proceedings of the *International Conference on Data Engineering (ICDE'19)*, 2019.
49. Ye Yuan, **Xiang Lian**, Guoren Wang, Lei Chen, Yuliang Ma, and Yishu Wang. Weight-Constrained Route Planning over Time-Dependent Graphs. In Proceedings of the *International Conference on Data Engineering (ICDE'19)*, 2019.
50. Peng Cheng, **Xiang Lian**, Lei Chen, and Siyuan Liu. Maximizing the Utility in Location-Based Mobile Advertising (poster paper). In Proceedings of the *International Conference on Data Engineering (ICDE'19)*, 2019.
51. Weilong Ren, **Xiang Lian**, and Kambiz Ghazinour. Efficient Join Processing Over Incomplete Data Streams. In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'19)*, Beijing, China, Nov. 3-7, 2019.
52. Qiyu Liu, **Xiang Lian**, and Lei Chen. Probabilistic Maximum Range-Sum Queries on Spatial Database (**Best Paper Candidate**). In Proceedings of the *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL'19)*, Chicago, Illinois, USA, Nov. 5-8, 2019.

#### Year 2018

53. Yue Wang, **Xiang Lian**, and Lei Chen. Efficient SimRank Tracking in Dynamic Graphs. In Proceedings of the *International Conference on Data Engineering (ICDE'18)*, pages 545-556, 2018.
54. Zijian Li, Xun Jian, **Xiang Lian**, and Lei Chen. An Efficient Probabilistic Approach for Graph Similarity Search. In Proceedings of the *International Conference on Data Engineering (ICDE'18)*, pages 533-544, 2018.
55. Xun Jian, **Xiang Lian**, and Lei Chen. On Efficiently Detecting Overlapping Communities over Distributed Dynamic Graphs (poster paper). In Proceedings of the *International Conference on Data Engineering (ICDE'18)*, pages 1328-1331, 2018.

#### Year 2017

56. **Xiang Lian** and Dongchul Kim. Efficient Ad-Hoc Graph Inference and Matching in Biological Databases. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'17)*, pages 359-373, Chicago, Illinois, USA, May 14 - 19, 2017.
57. Peng Cheng, **Xiang Lian**, Lei Chen, and Cyrus Shahabi. Prediction-Based Task Assignment on Spatial Crowdsourcing. In Proceedings of the *International Conference on Data Engineering (ICDE'17)*, pages 997-1008, San Diego, California, USA, April 19 - 22, 2017.
58. Kambiz Ghazinour, Jong-Hoon Kim, and **Xiang Lian**. A Secure and Smart Framework for Monitoring Infants' Safety (poster paper). In Proceedings of the *the 2017 International Conference on Computational Science and Computational Intelligence (CSCI'17)*, Las Vegas, USA, Dec. 14 - 16, 2017.

#### Year 2015

59. Weiguo Zheng, Lei Zou, **Xiang Lian**, Jeffrey Xu Yu, Shaoxu Song, and Dongyan Zhao. How to Build Templates for RDF Question/Answering - An Uncertain Graph Similarity Join Approach. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'15)*, pages 1809-1824, Melbourne, VIC, Australia, May 31 - Jun. 4, 2015.
60. Peng Cheng, **Xiang Lian**, Zhao Chen, Lei Chen, Jinsong Han, and Jizhong Zhao. Reliable Diversity-Based Spatial Crowdsourcing by Moving Workers. In Proceedings of the *Very Large Data Bases Conference (PVLDB'15)*, pages 1022-1033, Kohala, Hawai'i, USA, Aug. 31 - Sept. 4, 2015.

#### Year 2014

61. Xiaochen Zhu, Shaoxu Song, **Xiang Lian**, Jianmin Wang, Lei Zou. Matching Heterogeneous Event Data. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'14)*, pages 1211-1222, Snowbird, Utah, USA, Jun. 22-27, 2014.
62. Weiguo Zheng, Lei Zou, **Xiang Lian**, Liang Hong, and Dongyan Zhao. Efficient Subgraph Skyline Search Over

Large Graphs. In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'14)*, Shanghai, China, Nov. 3-7, 2014. *Acceptance rate: 20.8%*.

#### Year 2013

63. **Xiang Lian** and Lei Chen. Causality and Responsibility: Probabilistic Queries Revisited in Uncertain Databases. In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'13)*, San Francisco, CA, USA, Oct. 27 - Nov. 1, 2013. *Acceptance rate: 16.9%*.
64. Weiguo Zheng, Lei Zou, **Xiang Lian**, Dong Wang, and Dongyan Zhao. Graph Similarity Search with Edit Distance Constraint in Large Graph Databases (short paper). In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'13)*, San Francisco, CA, USA, Oct. 27 - Nov. 1, 2013. *Acceptance rate: 29.4%*.

#### Year 2011

65. **Xiang Lian** and Lei Chen. Efficient Query Answering in Probabilistic RDF Graphs. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'11)*, pages 157-168, Athens, Greece, June 12-16, 2011.
66. **Xiang Lian**, Yincheng Lin, and Lei Chen. Cost-Efficient Repair in Inconsistent Probabilistic Databases (short paper). In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'11)*, pages 1731-1736, Glasgow, United Kingdom, Oct. 24-28, 2011.
67. **Xiang Lian** and Lei Chen. Probabilistic Time Consistent Queries over Moving Objects. In Proceedings of the *International Conference on the Scientific and Statistical Database Management (SSDBM'11)*, pages 168-188, Portland, OR, USA, July 20-22, 2011.

#### Year 2010

68. **Xiang Lian**, Lei Chen, and Shaoxu Song. Consistent Query Answers in Inconsistent Probabilistic Databases. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'10)*, pages 303-314, Indianapolis, Indiana, USA, Jun. 6-11, 2010. *Acceptance rate: 19%*.
69. **Xiang Lian** and Lei Chen. Set Similarity Join on Probabilistic Data. In Proceedings of the *Very Large Data Bases Conference (PVLDB'10)*, 3(1), pages 650-659, Singapore, Sept. 13-17, 2010. *Acceptance rate: 16.7%*.
70. **Xiang Lian** and Lei Chen. A Generic Framework for Handling Uncertain Data with Local Correlations. In Proceedings of the *Very Large Data Bases Conference (PVLDB'10)*, 4(1), pages 12-21, Seattle, USA, 2010.

#### Year 2009

71. **Xiang Lian** and Lei Chen. Top- $k$  Dominating Queries in Uncertain Databases. In Proceedings of the *International Conference on Extending Database Technology (EDBT'09)*, pages 660-671, Saint-Petersburg, Russia, Mar. 24-26, 2009. *Acceptance rate: 32.5%*.
72. **Xiang Lian** and Lei Chen. Efficient Join Processing on Uncertain Data Streams. In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'09)*, pages 857-866, Hong Kong, China, Nov. 2-6, 2009. *Acceptance rate: 14.5%*.
73. **Xiang Lian** and Lei Chen. Probabilistic Inverse Ranking Queries over Uncertain Data (*Best Paper Award*). In Proceedings of the *International Conference on Database Systems for Advanced Applications (DASFAA'09)*, pages 35-50, Brisbane, Australia, Apr. 21-23, 2009. *Acceptance rate: 20.9%*.
74. Ke Yi, **Xiang Lian**, Feifei Li, and Lei Chen. A Concise Representation of Range Queries (short paper). In Proceedings of the *International Conference on Data Engineering (ICDE'09)*, pages 1179-1182, Shanghai, China, Mar. 29 - Apr. 4, 2009. *Acceptance rate: 27%*.

#### Year 2008

75. **Xiang Lian** and Lei Chen. Monochromatic and Bichromatic Reverse Skyline Search over Uncertain Databases. In Proceedings of the *ACM Conference on the Management of Data (SIGMOD'08)*, pages 213-226, Vancouver, Canada, Jun. 9-12, 2008. *Acceptance rate: 17.9%*. ([Citation count on Google Scholar : 264](#))
76. **Xiang Lian** and Lei Chen. Similarity Search in Arbitrary Subspaces under  $L_p$ -Norm. In Proceedings of the

*International Conference on Data Engineering (ICDE'08)*, pages 317-326, Cancún, México, Apr. 7-12, 2008. Acceptance rate: 19.2%.

77. **Xiang Lian** and Lei Chen. Probabilistic Ranked Queries in Uncertain Databases. In Proceedings of the *International Conference on Extending Database Technology (EDBT'08)*, pages 511-522, Nantes, France, Mar. 25-30, 2008. Acceptance rate: 16.7%.
78. Lei Chen and **Xiang Lian**. Dynamic Skyline Queries in Metric Spaces. In Proceedings of the *International Conference on Extending Database Technology (EDBT'08)*, pages 333-343, Nantes, France, Mar. 25-30, 2008. Acceptance rate: 16.7%.
79. **Xiang Lian**, Lei Chen, and Jeffrey Xu Yu. Pattern Matching over Cloaked Time Series (poster paper). In Proceedings of the *International Conference on Data Engineering (ICDE'08)*, pages 1462-1464, Cancún, México, Apr. 7-12, 2008. Acceptance rate: 31%.

#### Year 2007

80. **Xiang Lian** and Lei Chen. A General Cost Model for Dimensionality Reduction in High Dimensional Spaces. In Proceedings of the *International Conference on Data Engineering (ICDE'07)*, pages 66-75, Istanbul, Turkey, Apr. 16-20, 2007. Acceptance rate: 18.5%.
81. **Xiang Lian**, Lei Chen, Jeffrey Xu Yu, Guoren Wang, and Ge Yu. Similarity Match Over High Speed Time-Series Streams. In Proceedings of the *International Conference on Data Engineering (ICDE'07)*, pages 1086-1095, Istanbul, Turkey, Apr. 16-20, 2007. Acceptance rate: 18.5%.
82. Qiuxia Chen, Lei Chen, **Xiang Lian**, Yunhao Liu, and Jeffrey Xu Yu. Indexable PLA for Efficient Similarity Search. In Proceedings of the *Very Large Data Bases Conference (VLDB'07)*, pages 435-446, Vienna, Austria, Sept. 23-27, 2007. Acceptance rate: 16.9%.
83. **Xiang Lian**, Lei Chen, and Bin Wang. Approximate Similarity Search over Multiple Stream Time Series (short paper). In Proceedings of the *International Conference on Database Systems for Advanced Applications (DASFAA'07)*, pages 962-968, Bangkok, Thailand, Apr. 9-12, 2007. Acceptance rate: 18.7%.

#### Year 2006

84. **Xiang Lian** and Lei Chen. Efficient Methods on Predictions for Similarity Search over Stream Time Series. In Proceedings of the *International Conference on Scientific and Statistical Database Management (SSDBM'06)*, pages 241-250, Vienna, Austria, July 3-5, 2006.

#### Year 2004

85. Yufei Tao, Dimitris Papadias, and **Xiang Lian**. Reverse  $k$ NN Search in Arbitrary Dimensionality. In Proceedings of the *Very Large Data Bases Conference (VLDB'04)*, pages 744-755, Toronto, Canada, Aug. 30-Sept. 3, 2004. Acceptance rate: 16%. ([Citation count on Google Scholar : 350](#))

### WORKSHOP PAPERS

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#### *Workshop Statistics: Conference Workshop - 2*

#### Year 2012

86. Artem Chebotko, Eugenio De Hoyos, Carlos Gomez, Andrey Kashlev, **Xiang Lian**, and Christine Reilly. UTPB: A Benchmark for Scientific Workflow Provenance Storage and Querying Systems. In the *6th International IEEE Workshop on Scientific Workflows*, Honolulu, Hawaii, USA, June 24-29, 2012.

#### Year 2011

87. Thomas Bernecker, Tobias Emrich, Hans-Peter Kriegel, Andreas Züfle, Lei Chen, **Xiang Lian**, and Nikos Mamoulis. Managing Uncertain Spatio-Temporal Data. In *QUeST@GIS*, pages 16-20, Chicago, IL, USA, 2011.

### TECHNICAL REPORT

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**Technical Report Statistics: Technical Report - 10****Year 2019**

88. Ahmed Al-Baghdadi, **Xiang Lian**, En Cheng. Efficient Path Routing Over Road Networks in the Presence of Ad-Hoc Obstacles (Technical Report). In *CoRR abs/1910.04786* [<http://arxiv.org/abs/1910.04786>], 2019.
89. Weilong Ren, **Xiang Lian**, Kambiz Ghazinour. Skyline Queries Over Incomplete Data Streams (Technical Report). In *CoRR abs/1909.11224* [<http://arxiv.org/abs/1909.11224>], 2019.
90. Weilong Ren, **Xiang Lian**, and Kambiz Ghazinour. Efficient Join Processing Over Incomplete Data Streams (Technical Report). In *CoRR abs/1908.08654* [<http://arxiv.org/abs/1908.08654>], 2019.

**Year 2018**

91. Liang Li, Guoren Wang, Gang Wu, Ye Yuan, Lei Chen, and **Xiang Lian**. A Comparative Study of Consistent Snapshot Algorithms for Main-Memory Database Systems (Technical Report). In *CoRR abs/1810.04915* [<http://arxiv.org/abs/1810.04915>], 2018.
92. Xun Jian, **Xiang Lian**, and Lei Chen. On Efficiently Detecting Overlapping Communities over Distributed Dynamic Graphs (Technical Report). In *CoRR abs/1801.05946* [<http://arxiv.org/abs/1801.05946>], 2018.

**Year 2017**

93. Zijian Li, Xun Jian, **Xiang Lian**, and Lei Chen. An Efficient Probabilistic Approach for Graph Similarity Search (Technical Report). In *CoRR abs/1706.05476* [<http://arxiv.org/abs/1706.05476>], 2017.

**Year 2016**

94. Peng Cheng, **Xiang Lian**, Xun Jian, and Lei Chen. FROG: A Fast and Reliable Crowdsourcing Framework (Technical Report). In *CoRR abs/1610.08411* [<https://arxiv.org/abs/1610.08411>], 2016.

**Year 2015**

95. Peng Cheng, **Xiang Lian**, Lei Chen, Jinsong Han, and Jizhong Zhao. Task Assignment on Multi-Skill Oriented Spatial Crowdsourcing (Technical Report). In *CoRR abs/1510.03149* [<http://arxiv.org/abs/1510.03149>], 2015.
96. Peng Cheng, **Xiang Lian**, Lei Chen, and Cyrus Shahabi. Prediction-Based Task Assignment on Spatial Crowdsourcing (Technical Report). In *CoRR abs/1512.08518* [<http://arxiv.org/abs/1512.08518>], 2015.

**Year 2014**

97. Peng Cheng, **Xiang Lian**, Zhao Chen, Lei Chen, Jinsong Han, and Jizhong Zhao. Reliable Diversity-Based Spatial Crowdsourcing by Moving Workers (Technical Report). In *CoRR abs/1412.0223* [<http://arxiv.org/abs/1412.0223>], 2014.

**TALKS and PRESENTATIONS**

1. **Xiang Lian**. Research in Big Data Science, *Undergraduate Information Session and Graduate Orientation*, Department of Computer Science, Kent State University, January 22, 2020.
2. **Xiang Lian**. Reliable Diversity-Based Spatial Crowdsourcing by Moving Workers. In *CS 69191 Master's Seminar*, Kent State University, September, 2019.
3. **Xiang Lian**. KSU-APS IT Course -- Databases. In *KSU-APS IT Course Partnership*, Kent State University, June 12, 2019.
4. **Xiang Lian**. Cyberbullying Incidence Detection Over Social Networks. In *Computer Science for All: Computational Thinking Mini-Workshop*, Kent State University, November 3, 2018.
5. **Xiang Lian**. Reliable Diversity-Based Spatial Crowdsourcing by Moving Workers. In *CS 63005/73005 Advanced Database System Design*, Kent State University, September, 2018.
6. **Xiang Lian**. Inferring and Querying Hidden Data in Biological Databases, *CS Research Day*, Kent State University, Feb. 2, 2018.
7. **Xiang Lian**. Big Data Science Lab, Pizza meets Research, Department of Computer Science, Kent State University,

- Oct. 25, 2018
8. **Xiang Lian**. Research in Big Data Science, Graduate School Information Session, Department of Computer Science, Kent State University, April 30, 2018.
  9. **Xiang Lian**. Efficient Ad-Hoc Graph Inference and Matching in Biological Databases. Tsinghua University, Beijing, China, July, 2017.
  10. **Xiang Lian**. Efficient Ad-Hoc Graph Inference and Matching in Biological Databases. *ACM Conference on the Management of Data (SIGMOD'17)*, Chicago, Illinois, USA, May 14 - 19, 2017.
  11. **Xiang Lian**. Efficient Management Over Probabilistic Graph Databases. Tsinghua University, Beijing, China, July, 2015.
  12. **Xiang Lian** and Lei Chen. Causality and Responsibility: Probabilistic Queries Revisited in Uncertain Databases. *ACM Conference on Information and Knowledge Management (CIKM'13)*, San Francisco, CA, USA, Oct. 27 - Nov. 1, 2013.
  13. **Xiang Lian**. Query Processing in Uncertain Databases. Fudan University, Shanghai, China, July, 2013.
  14. **Xiang Lian**. Efficient Query Answering Over Uncertain Data. Tsinghua University, Beijing, China, June, 2012.
  15. **Xiang Lian**. Consistent Query Answers in Inconsistent Probabilistic Databases. Beijing University, Beijing, China, June, 2012.
  16. **Xiang Lian**, Yincheng Lin, and Lei Chen. Cost-Efficient Repair in Inconsistent Probabilistic Databases. *ACM Conference on Information and Knowledge Management (CIKM'11)*, Glasgow, United Kingdom, Oct. 24-28, 2011.
  17. **Xiang Lian** and Lei Chen. Set Similarity Join on Probabilistic Data. *Very Large Data Bases Conference (VLDB'10)*, Singapore, Sept. 13-17, 2010.
  18. **Xiang Lian**, Lei Chen, and Shaoxu Song. Consistent Query Answers in Inconsistent Probabilistic Databases. *ACM Conference on the Management of Data (SIGMOD'10)*, Indianapolis, Indiana, USA, Jun. 6-11, 2010.
  19. **Xiang Lian** and Lei Chen. Efficient Pattern Matching over Uncertain Data Streams (The HKIE Outstanding Paper Award). *Hong Kong Institution of Engineers (HKIE)*, Hong Kong, China, December, 2009.
  20. **Xiang Lian** and Lei Chen. Monochromatic and Bichromatic Reverse Skyline Search over Uncertain Databases. *ACM Conference on the Management of Data (SIGMOD'08)*, Vancouver, Canada, Jun. 9-12, 2008.
  21. **Xiang Lian** and Lei Chen. Probabilistic Ranked Queries in Uncertain Databases. *International Conference on Extending Database Technology (EDBT'08)*, Nantes, France, Mar. 25-30, 2008.
  22. Lei Chen and **Xiang Lian**. Skyline Queries in Metric Spaces. *International Conference on Extending Database Technology (EDBT'08)*, Nantes, France, Mar. 25-30, 2008.
  23. **Xiang Lian** and Lei Chen. A General Cost Model for Dimensionality Reduction in High Dimensional Spaces. *International Conference on Data Engineering (ICDE'07)*, Istanbul, Turkey, Apr. 16-20, 2007.
  24. **Xiang Lian**, Lei Chen, Jeffrey Xu Yu, Guoren Wang, and Ge Yu. Similarity Match Over High Speed Time-Series Streams. *International Conference on Data Engineering (ICDE'07)*, Istanbul, Turkey, Apr. 16-20, 2007.

## TEACHING EXPERIENCE

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**Summary of the Teaching:** In 2017-2020, I designed and taught 4 new undergraduate and graduate courses:

- Big Data Analytics (CS 43016 & CS 63016 & CS 73016) [graduate; in-class and online];
- Probabilistic Data Management (CS 63018 & CS 73018) [graduate; in-class];
- Data Mining Techniques (CS 43105) [undergraduate; in-class], and;
- Graph and Social Network Analysis (CS 43118 & CS 53118) [undergraduate and graduate; in-class].

In Fall 2018 and Summer 2020, I designed 2 online undergraduate and graduate courses:

- Big Data Analytics (CS 43016 & CS 63016 & CS 73016) [undergraduate and graduate; online], and;
- Data Mining Techniques (CS 63105 & CS 73105) [graduate; online].

In addition, I also taught CS core and elective courses:

- CS I: Procedural Programming & Object Oriented Programming (CS 13011 & 13012) [undergraduate; in-class];
- CS II: Data Structures and Abstraction (CS 23001) [undergraduate; in-class], and;
- Capstone Project & Software Development Project (CS 49901 & CS 44901) [undergraduate; in-class].

**Instructor, Kent State University**

**2016 ~ present**

- Graph and Social Network Analysis (CS 43118 & CS 53118), Fall 2020
- CS II: Data Structures and Abstraction (CS 23001), Fall 2020
- CS II: Data Structures and Abstraction (CS 23001), Spring 2020
- Big Data Analytics (online) (CS 43016 & CS 63016 & CS 73016), Spring 2020
- Data Mining Techniques (CS 43105), Fall 2019
- Probabilistic Data Management (CS 63018 & CS 73018), Fall 2019
- Big Data Analytics (online) (CS 43016 & CS 63016 & CS 73016), Spring 2019
- Probabilistic Data Management (CS 63018 & CS 73018), Fall 2018
- Big Data Analytics (CS 63016 & CS 73016), Spring 2018
- Capstone Project & Software Development Project (CS 49901 & CS 44901), Spring 2018
- ST: Probabilistic Data Management [graduate] (CS 69995 & CS 79995), Fall, 2017
- Research [graduate] (CS 89098), Summer & Fall, 2017
- ST: Big Data Analytics [graduate] (CS 79995 & CS 69995), Spring, 2017
- CS I: Procedural Programming & Object Oriented Programming (CS 13011 & 13012), Spring, 2017

**Instructor, University of Texas Rio Grande Valley**

**2015 ~ 2016**

- Operating Systems (CSCI/CMPE 4334), Spring, 2016
- Applied Database Systems [graduate] (CSCI 6315), Spring, 2016
- Database Design and Implementation (CSCI 4333), Fall, 2015
- Object Oriented Programming in C# (CSCI/CMPE 3328), Fall, 2015
- Master's Thesis (CSCI 7300) [graduate], Fall, 2015

**Instructor, University of Texas - Pan American**

**2011 ~ 2015**

- Operating Systems (CSCI/CMPE 4334), Spring, 2015
- Topic: Programming in Python (CSCI/CMPE 4341), Spring, 2015
- Object Oriented Programming in C# (CSCI/CMPE 3328), Fall, 2014
- Database Design and Implementation (CSCI 4333), Fall, 2014
- Problems in Computer Science [graduate] (CSCI 6380), Fall, 2014
- Independent Research and Study [graduate] (CSCI 6381), Fall, 2014
- Computer Science I: C++ Programming (CSCI 1380), Spring, 2014
- Operating Systems (CSCI/CMPE 4334), Spring, 2014
- Master's Project (CSCI 6390) [graduate], Spring, 2014
- Object Oriented Programming in C# (CSCI/CMPE 3328), Fall, 2013
- Foundations of Systems [graduate] (CSCI 6307), Fall, 2013
- Computer Science I: C++ Programming (CSCI 1380), Spring, 2013
- Operating Systems (CSCI/CMPE 4334), Spring, 2013
- Independent Research and Study [graduate] (CSCI 6381), Spring, 2013
- Computer Science I: C++ Programming (CSCI 1380), Fall, 2012
- Object Oriented Programming in C# (CSCI 3328), Fall, 2012
- Master's Project (CSCI 6390) [graduate], Fall, 2012

- Computer Science I: C++ Programming (CSCI 1380), Spring, 2012
- Operating Systems (CSCI/CMPE 4334), Spring, 2012
- Master's Thesis (CSCI 7300) [graduate], Spring, 2012
- Computer Science I: C++ Programming (CSCI 1380/1387), Fall, 2011
- Visual Basic (CSCI 3327), Fall, 2011
- Independent Research and Study [graduate] (CSCI 6381), Fall, 2011

**Teaching Assistant, the Hong Kong University of Science and Technology**

**2003 ~ 2008**

- Database Management Systems (COMP 231), Dr. Lei Chen and Dr. Dik Lun Lee, Spring, 2008
- Design and Analysis of Algorithms (COMP 271), Dr. An-Chow Lai, Spring, 2007
- Data Structures and Algorithms (COMP 171), Dr. Lei Chen, Fall, 2006
- Similarity Search Over Databases (COMP 630J), Dr. Lei Chen, Spring, 2006
- Advanced Database Systems: MSc in Information Technology Course (CSIT 530), Dr. Dimitris Papadias, Spring, 2005
- Database Management Systems (COMP 231), Dr. Dimitris Papadias, Spring, 2005
- Database Architecture and Implementation (COMP 530), Dr. Dimitris Papadias, Fall, 2004
- Data Structures and Algorithms (COMP 171), Dr. Shueng-Han Gary Chan, Spring, 2004
- Exploring Multimedia and Internet Computing (COMP101), Dr. Vincent Yun Shen, Fall, 2003

## CURRENT / GRADUATED STUDENTS

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### Current Ph.D. and Undergraduate Students

1. Kovan Bavi, Ph.D. candidate (Starting from Spring 2018; passed Preliminary Exam and Candidacy Exam)
2. Weilong Ren, Ph.D. candidate (Starting from Fall 2017; passed Preliminary Exam and Candidacy Exam) [awarded with SIGIR 2019 Student Travel Grant; awarded with the University Fellowship, Kent State University, 2020-2021]
3. Ahmed Al-Baghdadi, Ph.D. candidate (Starting from Summer 2017; passed Preliminary Exam and Candidacy Exam)
4. Niranjana Rai, Ph.D. candidate (Starting from Spring 2017; passed Preliminary Exam and Candidacy Exam)
5. Taksch Dube, undergraduate student [2019 - present]
6. Jamie Bowen, undergraduate student, under the NSF CoF program [2020 - present]

### Graduated Master Students

7. Bamikole Ogundele, Master Student (Graduated in 2015; Master's thesis: "Efficient Query Processing Over Uncertain Road Networks")
8. Vincent Schoenmakers, Master Student (Graduated in 2014; Master's project: "Facility Reservation Management System for UTRGV Wellness and Recreational Center")
9. Yaqing Chen, Master Student (Graduated in 2014; Master's thesis: "Probabilistic Shortest Time Queries Over Uncertain Road Networks")

## PROFESSIONAL SERVICES

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*Service Statistics: (Co-)chair - 5; Journal Reviewer - 38; Conference/Workshop Reviewer - 27; External Reviewer - 18; Technical Program Committee Member - 6; Book/Grant Proposal Reviewer - 6; Tutorial - 1; Departmental/College/University Services - 29; Committee Member/Chair for Thesis Defense or Exams - 32; Helper/Evaluator - 2; Professional Memberships - 3*

### Chair and co-chair for:

1. *International Conference on Data Engineering (ICDE), Session Chair [2017];*
2. *The Asia Pacific Web and Web-Age Information Management Joint Conference on Web and Big Data (APWeb-WAIM), Proceedings Co-Chair [2017];*

3. *International Conference on Database Systems for Advanced Applications (DASFAA)*, Publicity Co-Chair [2017];
4. *ACM Conference on the Management of Data (SIGMOD)*, Proceedings Co-Chair [2014, 2015]; and
5. *International Conference on Web-Age Information Management (WAIM)*, Proceedings Co-Chair [2016].

**Journal reviewer for:**

1. *ACM Transactions on Database Systems (TODS)* [2016, 2018, 2019, 2020];
2. *Very Large Data Bases Journal (VLDBJ)* [2010, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019];
3. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* [2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020];
4. *ACM Transactions on the Web (TWEB)* [2009];
5. *Information Systems (IS)* [2013, 2018, 2019];
6. *Knowledge and Information Systems (KAIS)* [2012, 2013, 2018];
7. *Information Sciences (INS)* [2013, 2014, 2015, 2017, 2018, 2019, 2020];
8. *Data and Knowledge Engineering Journal (DKE)* [2012, 2013, 2018, 2019];
9. *World Wide Web Journal (WWWJ)* [2011, 2013, 2016, 2017, 2018];
10. *Journal of Computer Science and Technology (JCST)* [2012, 2013, 2015, 2016, 2018];
11. *Distributed and Parallel Databases (DAPD)* [2012, 2013, 2014, 2015, 2016, 2017];
12. *Transactions on Knowledge Discovery from Data (TKDD)* [2013, 2014];
13. *Data Mining and Knowledge Discovery (DAMI)* [2016, 2017, 2018];
14. *ACM Transactions on Intelligent Systems and Technology (ACM TIST)* [2020];
15. *Transactions on Systems, Man, and Cybernetics – Part B: Cybernetics (SMCB)* [2012];
16. *ACM Transactions on Interactive Intelligent Systems (ACM TiIS)* [2013];
17. *International Journal on Advances of Computer Science for Geographic Information Systems (Geoinformatica)* [2015];
18. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (IJUFKS)* [2014, 2015, 2016, 2017];
19. *International Journal of Cooperative Information Systems (IJCIS)* [2015];
20. *Frontiers of Computer Science (FCS)* [2011, 2014, 2016, 2017, 2018, 2019];
21. *Transactions on Fuzzy Systems (TFS)* [2015, 2016, 2017, 2018, 2019, 2020];
22. *IEEE Transactions on Big Data (TBD)* [2019];
23. *China Communication (CNCOMM) (Big data special issue)* [2014];
24. *International Journal of Distributed Sensor Networks* [2015];
25. *Neurocomputing* [2015];
26. *The Journal of Computers (JCP)* [2013, 2014];
27. *The Computer Journal (COMPJ)* [2014];
28. *Transactions on Spatial Algorithms and Systems (TSAS)* [2016];
29. *IEEE Transactions on Network Science and Engineering (TNSE)* [2017, 2018];
30. *Journal of Computers and Electrical Engineering* [2017];
31. *Journal of Data and Information Management (DIM)* [2017];
32. *Journal of Data Science and Engineering (DSEJ)* [2018, 2020];
33. *ACM Journal of Data and Information Quality (JDIQ)* [2018, 2019, 2020];
34. *Statistical Methods in Medical Research* [2019];
35. *IEEE Access* [2019, 2020];
36. *Science China Information Sciences (SCIS)* [2020];
37. *SpringerPlus* [2015]; and
38. *Journal of Web Engineering (JWE)* [2015].

**Program committee (PC) member and reviewer for:**

1. *Very Large Data Bases Conference (VLDB)* [2019];
2. *International Conference on Data Engineering (ICDE)* [2012, 2018 (Demo Track)];
3. *International Conference on Extending Database Technology (EDBT)* [2020];
4. *ACM Conference on Information and Knowledge Management (CIKM)* [2011, 2017, 2018, 2020];
5. *Association for Computing Machinery's Special Interest Group on Information Retrieval (ACM SIGIR)* [2020];
6. *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS)* [2015];
7. *International Conference on Database Systems for Advanced Applications (DASFAA)* [2015, 2017, 2018, 2019, 2020];
8. *International Conference on Web-Age Information Management (WAIM)* [2010, 2013, 2014, 2016];
9. *International Asia-Pacific Web Conference (APWeb)* [2013, 2014, 2016];
10. *The Asia Pacific Web and Web-Age Information Management Joint Conference on Web and Big Data (APWeb-WAIM)* [2017, 2018, 2019, 2020];
11. *International Conference on Web Information Systems Engineering (WISE)* [2017, 2018];
12. *International Joint Conference on Artificial Intelligence (IJCAI)* [2015];
13. *IEEE International Conference on Big Data (IEEE BigData)* [2019];
14. *Australasian Database Conference (ADC)* [2017, 2018];
15. *IEEE International Conference on Computer and Information Technology (CIT)* [2010, 2011, 2013];
16. *IEEE International Conference on Parallel and Distributed Systems (ICPADS)* [2014, 2017, 2018];
17. *Asia-Pacific Services Computing Conference (APSCC)* [2014, 2016];
18. *Wireless Telecommunications Symposium (WTS)* [2015, 2016, 2017, 2018, 2019, 2020];
19. *International Conference on Mobile Ad Hoc and Sensor Networks (IEEE MSN)* [2016, 2018, 2019];
20. *IEEE Frontiers in Education Conference (FIE)* [2015, 2017];
21. *International Conference on Big Data Computing and Communication (BIGCOM)* [2016, 2017, 2018, 2019];
22. *IEEE International Conference on Intelligent Cloud Computing (ICC)* [2016];
23. *International Workshop on Semantic Big Data (SBD @ SIGMOD)* [2016, 2017, 2018, 2019, 2020];
24. *International Workshop on Biological Network Analysis and Integrative Graph-Based Approaches (IWBNA)* [2016];
25. *International Workshop on Uncertain Data Computing* [2013];
26. *International Workshop on Graph Database (IWGD)* [2010]; and
27. *International Workshop on Management and mining Of UNcertain Data (MOUND)* [2009].

**External conference reviewer for:**

1. *ACM Conference on the Management of Data (SIGMOD)* [2006, 2007, 2008, 2009, 2010, 2011, 2015, 2016];
2. *Very Large Data Bases Conference (VLDB)* [2004, 2005, 2006, 2007, 2008, 2010, 2012, 2013, 2015];
3. *International Conference on Data Engineering (ICDE)* [2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, 2017];
4. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)* [2010];
5. *IEEE International Conference on Data Mining (ICDM)* [2009, 2010, 2012, 2017];
6. *International Conference on Extending Database Technology (EDBT)* [2006, 2013, 2014];
7. *International World Wide Web Conferences (WWW)* [2008, 2009];
8. *ACM Conference on Information and Knowledge Management (CIKM)* [2005, 2013];
9. *IEEE International Conference on Computer Communications (INFOCOM)* [2013];
10. *International Conference on Scientific and Statistical Database Management (SSDBM)* [2005, 2007, 2008, 2010];
11. *International Conference on Database Systems for Advanced Applications (DASFAA)* [2011, 2014];
12. *ACM Multimedia (MM)* [2012];

13. *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS)* [2009, 2010];
14. *Symposium on Spatial and Temporal Databases (SSTD)* [2005];
15. *International Conference on Database and Expert Systems Applications (DEXA)* [2004, 2005]; and
16. *Mobile Data Management (MDM)* [2009].

**External workshop reviewer for:**

17. *International Workshop on Data Quality in Integration Systems (DQIS'11)* [2011]; and
18. *ACM SIGKDD International Workshop on Knowledge Discovery from Uncertain Data (U'09)* [2009].

**Technical program committee member and organizing committee member for:**

1. *International Conference on Big Data Computing and Communications (BIGCOM)* [2019];
2. *IEEE International Conference on Intelligent Cloud Computing (ICC)* [2016];
3. *International Conference on Mobile Ad Hoc and Sensor Networks (IEEE MSN)* [2016];
4. *Wireless Telecommunications Symposium (WTS)* [2015, 2016, 2017, 2019, 2020]; and
5. *The 5<sup>th</sup> Beijing-Hong Kong International Doctoral Forum* [2010].

**Research grant/book proposal reviewer for:**

1. *National Science Foundation (NSF), Panelist* [2017, 2019];
2. *Research Grants Council of Hong Kong (HK RGC), External Reviewer* [2017, 2018, 2019, 2020];
3. *CRC Press, Book Proposal Reviewer* [2020];
4. *Wiley, Book Proposal Reviewer* [2019];
5. *Initiative of the Chilean National Science and Technology Commission (CONICYT), Chile, Reviewer* [2015]; and
6. *STW / Enabling New Technology, Technology Foundation STW, Netherlands, Reviewer* [2014].

**Tutorials for:**

1. Lei Chen and **Xiang Lian**. Query Processing over Uncertain and Probabilistic Databases. In *Proceedings of the International Conference on Database Systems for Advanced Applications (DASFAA'12)*, pages 326-327, Busan, South Korea, Apr. 15-19, 2012.

**University-level services for:**

1. *2020-2021 Reuter Fellowship, Reviewer* [KSU; 2020]
2. *2020-2021 Mary Ann Stephens and John R. Graham Award, Reviewer* [KSU; 2020]
3. *2020 Summer Research Grants and 2020/2021 Academic Year Research Semesters, Panelist of University Research Council (URC) Sciences/Math Review Panel* [KSU; 2019]
4. *2018 Summer Undergraduate Research Experience (SURE) Program, Reviewer* [KSU; 2018]
5. *Faculty Research Council (FRC), Member* [UTRGV; 2014 ~ 2015]

**College-level services for:**

6. *Proposal Design of a New Data Science Master's Degree Program. Department of Computer Science & Department of Mathematics, Member* [KSU; May - August, 2019]
7. *Proposal Review of the Ohio State University Professional Science Master's in Translational Data Analytics, Reviewer* [KSU; 2019]
8. *Proposal Review of the Bowling Green State University Ph.D. Program in Data Science, Reviewer* [KSU; 2018]
9. *2018-2019 Fellowships and Awards for Graduate Students, Reviewer* [KSU; 2018]
10. *Excellence Awards Selection Committee, Member* [UTRGV; 2014]
11. *Majors Fair, Volunteer* [UTRGV; 2012 ~ 2014]
12. *Annual Evaluation Committee (Nominations of Faculty Excellence Awards; College-Level Committee), Member* [UTRGV; 2012 ~ 2013]

**Department-level services for:**

13. *Accreditation Initiative Committee, Coordinator* [KSU; 2020 ~ 2021]

14. *Curriculum Committee*, **Member** [KSU; 2017 ~ 2018, 2020 ~ 2021]
15. *Graduate Study Committee*, **Member** [KSU; 2018 ~ 2020]
16. *Faculty Search Committee*, **Member** [KSU; 2019 ~ 2020]
17. *Alumni & Industrial Affiliates Committee*, **Member** [KSU; 2016 ~ 2021]
18. *Preliminary Exam Committee*, **Member** and **Question Designer** for Data Structures [KSU; 2019 ~ 2020]
19. *Industrial Advisory Board Meeting*, **Attendee** [KSU; Oct. 26, 2018]
20. *UG Advisors Meeting*, **Attendee** (Data Engineering Concentration Update) [KSU; Mar. 13, 2019]
21. **Xiang Lian**. KSU-APS IT Course – Databases, **Speaker**, *KSU-APS IT Course Partnership* [KSU; June 12, 2019]
22. **Xiang Lian**. Cyberbullying Incidence Detection Over Social Networks, **Speaker**, *Computer Science for All: Computational Thinking Mini-Workshop* [KSU; Nov 3, 2018]
23. *Graduate Faculty Status Review*, **Reviewer** [KSU; 2019]
24. *Colloquium Committee*, **Chair** [UTRGV; 2012 ~ 2013]
25. *Annual Evaluation Committee*, **Chair** [UTRGV; 2013 ~ 2014]
26. *Undergraduate Curriculum Committee*, **Member** [UTRGV; 2011 ~ 2016]
27. *Graduate Committee*, **Member** [UTRGV; 2011 ~ 2016]
28. *Faculty Search Committee*, **Member** [UTRGV; 2014 ~ 2016]
29. *Annual Evaluation Committee* (Annual Evaluation and Nominations of Faculty Excellence Awards; Departmental Committee), **Member** [UTRGV; 2012 ~ 2013]

**Committee Member/Chair for Thesis Defense or Exams** for:

1. Safa Shubbar, Ph.D. Candidacy Exam, "Genotype-phenotype Co-analysis for Autism Categorization", **Committee Member**, Department of Computer Science, Kent State University, August 21, 2019
2. Niranjana Rai, Ph.D. Candidacy Exam, "Distributed Query Processing in Probabilistic Databases", **Committee Chair**, Department of Computer Science, Kent State University, August 16, 2019
3. Ahmed Al-Baghdadi, Ph.D. Candidacy Exam, "Queries over Spatial and Social Networks", **Committee Chair**, Department of Computer Science, Kent State University, August 2, 2019
4. Suphanut Jamonnak, Ph.D. Candidacy Exam, "Visual Analytics for Multimedia Data in Geographical Space", **Committee Member**, Department of Computer Science, Kent State University, August 1, 2019
5. Weilong Ren, Ph.D. Candidacy Exam, "Efficient and Effective Query Processing Over Incomplete Data", **Committee Chair**, Department of Computer Science, Kent State University, July 16, 2019
6. Divyank Vemulapalli, Master Thesis, "Design and Implementation of Parent Mediated Special Education Mobile Applications for Young Children", **Committee Member**, Department of Computer Science, Kent State University, June 7, 2019
7. Shamal Al-Dohuki, Ph.D. Thesis, "Interactive Visual Querying and Analysis for Urban Trajectory Data", **Committee Member**, Department of Computer Science, Kent State University, January 23, 2019
8. Paweena Manotipya, Master Thesis, "Children's Online Privacy from the Parents' Perspective: Challenges and a Possible Solution", **Committee Member**, Department of Computer Science, Kent State University, April 10, 2019
9. Paul Bryant, Master Thesis, "Expanding the Build and Execute Environment to Streamline Containerized Workflows in a High Performance Computing Ecosystem", **Committee Member**, Department of Computer Science, Kent State University, October 31, 2018
10. Kovan Bavi, Ph.D. Candidacy Exam, "Probabilistic Queries on Uncertain Databases", **Committee Chair**, Department of Computer Science, Kent State University, August 2, 2018
11. Amiruzzaman, Md, Ph.D. Candidacy Exam, "Urban Visual Data and Machine Learning", **Committee Member**, Department of Computer Science, Kent State University, July 19, 2018
12. Sanath Kumar Reddy Reddeddy, Master Thesis, "Design and Implementation of Location based informational Web



- Application", **Committee Member**, Department of Computer Science, Kent State University, April 5, 2018
13. Akhil Kumar Goud Koothal, Master Thesis, "Design and Implementation of Location based informational Mobile Application", **Committee Member**, Department of Computer Science, Kent State University, April 5, 2018
  14. Chao Ma, Ph.D. Candidacy Exam, "Visualizing Spatial-temporal Events", **Committee Member**, Department of Computer Science, Kent State University, April 26, 2018
  15. Esraa Alzaidi, Master Thesis, "Experiments on Chordal Graph Hellyfication", **Committee Member**, Department of Computer Science, Kent State University, May 3, 2017
  16. Abhishek Singh, Master Thesis, "Mobile Crowd Instrumentation: Design of Surface Solar Irradiance Instrument", **Committee Member**, Department of Computer Science, Kent State University, April 4, 2017
  17. Xu Han, Master Thesis, "Location Based Educational Web System Design and Implementation", **Committee Member**, Department of Computer Science, Kent State University, April 3, 2017
  18. Chang Shu, Master Thesis, "Location based Educational mobile application design and implementation", **Committee Member**, Department of Computer Science, Kent State University, April 3, 2017
  19. Xiqian Han, Master Thesis, "Design and Implementation of Special Education Apps Information Management System", **Committee Member**, Department of Computer Science, Kent State University, April 3, 2017
  20. Abhishek Singh, Master Thesis, "Mobile Crowd Instrumentation: Design of Surface Solar Irradiance Instrument", **Committee Member**, Department of Computer Science, Kent State University, April 4, 2017
  21. Ahmed Al-Baghdadi, Master Thesis, "Computing Top-k Closeness Centrality in Unweighted Undirected Graphs Revisited", **Committee Member**, Department of Computer Science, Kent State University, March 22, 2017
  22. Sultan Alzahrani, Master Thesis, "The Upper Bound of Finite Additive 2-Bases", **Committee Member**, Department of Mathematics, Kent State University, Fall 2016
  23. Jonatan Reyes, Master Thesis, "Analysis and Simulation of a Social Network Twitter: A Case Study", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2016
  24. Sai Jyothsna Jonnalagadda, Master Thesis, "Global Entropy Based Greedy Algorithm for Discretization", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2016
  25. Bamikole Ogundele, Master Thesis, "Efficient Query Processing Over Uncertain Road Networks ", **Committee Chair**, University of Texas Rio Grande Valley, 2015
  26. Jose Villarreal, Master Thesis, "Use of a Simulated Directional Social Network to Compare Measures of User Influence", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2015
  27. Rodolfo Baez, Master Thesis, "Evaluation of Security Vulnerabilities of Popular Computer and Server Operating Systems Under Cyber Attacks", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2015
  28. Yifan Xing, Master Thesis, "Distributed Coordinate Tracking Control of Multiple Wheeled Mobile Robots", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2015
  29. Yaqing Chen, Master Thesis, "Probabilistic Shortest Time Queries Over Uncertain Road Networks", **Committee Chair**, Department of Computer Science, University of Texas Rio Grande Valley, 2014
  30. Chunyu Chen, Master Thesis, "Distributed Formation Tracking Control of Multiple Car-Like Robots", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2014
  31. Eugenio de Hoyos, Master Thesis, "K-Nearest keyword search in RDF graphs", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2012
  32. Carlos Gomez, Master Thesis, "UTPB: A Benchmark for Scientific Workflow Provenance Storage and Querying Systems", **Committee Member**, Department of Computer Science, University of Texas Rio Grande Valley, 2012

**Helper for:**

1. Evaluator for IEEE Usability Study [Oct. 2014; IEEE testing for a collaboration tool, *IEEE Collabratec*<sup>TM</sup>]

2. Student helper for the *IEEE International Conference on Data Mining (ICDM)* [2006; Hong Kong]

**ACM SIGMOD member** [2010, 2017, 2018, 2019, 2020]

**IEEE student member** [2007, 2008, 2009, 2010]

**IEEE communications society member** [2010]

## **LANGUAGE PROFICIENCY**

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- Chinese (Native)
- English (Fluent)
- Cantonese (Basic)

## **REFERENCES**

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*References are available upon requests.*

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