

# 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)

## EDUCATION

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- **PhD** in Computer Science, 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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Query processing over uncertain databases, streaming time series, spatial databases, and inconsistent probabilistic databases.

## WORK EXPERIENCE

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- **Assistant Professor**, *University of Texas - Pan American*, **Sept., 2011~present**
- **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**

## JOURNAL ARTICLES

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- **Lian, X.**, Chen, L. Reverse Skyline Search in Uncertain Databases. In *ACM Transactions on Database Systems (TODS)*, 35(1), 2010.
- **Lian, X.**, Chen, L. Shooting Top-k Stars in Uncertain Databases. In *Very Large Data Bases Journal (VLDBJ)*, 2011.

- **Lian, X.**, Chen, L. Probabilistic Inverse Ranking Queries in Uncertain Databases. In *Very Large Data Bases Journal (VLDBJ)*, 2010.
- **Lian, X.**, Chen, L. Efficient Processing of Probabilistic Reverse Nearest Neighbor Queries over Uncertain Data. In *Very Large Data Bases Journal (VLDBJ)*, 18(3), pages 787-808, 2009.
- **Lian, X.**, Chen, L. Subspace Similarity Search Under  $L_p$ -Norm. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 24(2), pages 365-382, 2012.
- **Lian, X.**, Chen, L. Similarity Join Processing on Uncertain Data Streams. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2010.
- **Lian, X.**, Chen, L. Ranked Query Processing in Uncertain Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 22(3), pages 420-436, 2010.
- **Lian, X.**, Chen, L. Efficient Similarity Join over Multiple Stream Time Series. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(11), pages 1544-1558, 2009.
- **Lian, X.**, Chen, L. 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.
- **Lian, X.**, Chen, L., Yu, J. X., Han, J., Ma, J. 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.
- **Lian, X.**, Chen, L. Probabilistic Group Nearest Neighbor Queries in Uncertain Databases. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 20(6), pages 809-824, 2008.
- **Lian, X.**, Chen, L. Efficient Similarity Search over Future Stream Time Series. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 20(1), pages 40-54, 2008.
- **Lian, X.**, Chen, L., Wang, G. Finding the Least Influenced Set in Uncertain Databases. In *Information Systems*, 2010.
- Chen, L., **Lian, X.** Efficient Processing of Metric Skyline Queries. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 21(3), pages 351-365, 2009.
- Chen, L., **Lian, X.** 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.
- Yi, K., **Lian, X.**, Li, F., Chen, L. The World in a Nutshell: Concise Range Queries. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 23(1), pages 139-154, 2011.
- Tao, Y., **Lian, X.**, Papadias, D., Hadjieleftheriou, M. Random Sampling for Continuous Streams with Arbitrary Updates. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 19(1), pages 96-110, 2007.
- Ding X., **Lian, X.**, Chen, L., Jin H. Continuous Monitoring of Skylines Over Uncertain Data Streams. *Information Science*, 184(1), pages 196-214, 2012.
- Tao, Y., Papadias, D., **Lian, X.**, Xiao, X. 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.
- **Lian, X.**, Chen, L. Efficient Pattern Matching over Uncertain Data Streams (*The HKIE Outstanding Paper Award*). In the *HKIE Transactions*, 16(4), pages 9-18, 2009.
- Chen, L., Tseng, M., **Lian, X.** Development of foundation models for Internet of Things. In *Frontiers of Computer Science in China (FCS)*, 4(3), pages 376-385, 2010.

## CONFERENCE PUBLICATIONS

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- **Lian, X.**, Chen, L. Efficient Query Answering in Probabilistic RDF Graphs. In *Proceedings of the ACM Conference on the Management of Data (SIGMOD'11)*, Athens, Greece, June 12-16, 2011.
- **Lian, X.**, Chen, L., Song S. 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%*.

- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L. 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.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L., Yu, J. X., Wang G., Yu G. 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%*.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Lin, Y., Chen, L. Cost-Efficient Repair in Inconsistent Probabilistic Databases. In Proceedings of the *ACM Conference on Information and Knowledge Management (CIKM'11)*, 2011.
- **Lian, X.**, Chen, L. 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%*.
- **Lian, X.**, Chen, L., Yu, J. X. 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%*.
- Chen, Q., Chen, L., **Lian, X.**, Liu, Y., Yu, J. X. 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%*.
- Tao, Y., Papadias, D., **Lian, X.** 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%*.
- Yi, K., **Lian, X.** Li, F., Chen, L. The World in a Nutshell: Concise 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%*.
- Chen, L., **Lian, X.** 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%*.

- **Lian, X.**, Chen, L. 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.
- **Lian, X.**, Chen, L., Wang, B. Approximate Similarity Search over Multiple Stream Time Series. 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%*.

## PROFESSIONAL SERVICES

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### Program committee member for

*International Conference on Data Engineering (ICDE)* [2012];  
*ACM Conference on Information and Knowledge Management (CIKM)* [2011];  
*International Conference on Web-Age Information Management (WAIM)* [2010];  
*IEEE International Conference on Computer and Information Technology (CIT)* [2010, 2011];  
*International Workshop on Graph Database (IWGD)* [2010]; and  
*International Workshop on Management and mining Of UNcertain Data (MOUND)* [2009].

### Technical program committee member and organizing committee member for

*The 5<sup>th</sup> Beijing-Hong Kong International Doctoral Forum* [2010].

### Journal reviewer for

*Very Large Data Bases Journal (VLDBJ)* [2010];  
*IEEE Transactions on Knowledge and Data Engineering (TKDE)* [2009, 2010, 2011, 2012];  
*ACM Transactions on the Web (TWEB)* [2009];  
*Knowledge and Information Systems (KAIS)* [2012];  
*World Wide Web Journal (WWWJ)* [2011]; and  
*Frontiers of Computer Science in China (FCS)* [2011].

### External conference reviewer for

*ACM Conference on the Management of Data (SIGMOD)* [2006, 2007, 2008, 2009, 2010, 2011];  
*Very Large Data Bases Conference (VLDB)* [2004, 2005, 2006, 2007, 2008, 2010];  
*International Conference on Data Engineering (ICDE)* [2006, 2007, 2008, 2009, 2010, 2011];  
*ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)* [2010];  
*International Conference on Extending Database Technology (EDBT)* [2006, 2012];  
*International Conference on Scientific and Statistical Database Management (SSDBM)* [2005, 2007, 2008, 2010];  
*ACM Conference on Information and Knowledge Management (CIKM)* [2005];  
*International Conference on Database Systems for Advanced Applications (DASFAA)* [2011];  
*ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS)* [2009, 2010];  
*IEEE International Conference on Data Mining (ICDM)* [2009, 2010];  
*International World Wide Web Conferences (WWW)* [2008, 2009];  
*Symposium on Spatial and Temporal Databases (SSTD)* [2005];  
*International Conference on Database and Expert Systems Applications (DEXA)* [2004, 2005]; and  
*Mobile Data Management (MDM)* [2009].

### External workshop reviewer for

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

### Student helper for

*IEEE International Conference on Data Mining (ICDM)* [2006, Hong Kong]

**ACM SIGMOD member** [2010]

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

**IEEE communications society member** [2010]

## TEACHING EXPERIENCE

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

**2011 ~ present**

- Computer Science I: C++ Programming (CSCI 1380), Spring, 2012
- Operating Systems (CSCI/CMPE 4334), Spring, 2012
- Computer Science I: C++ Programming (CSCI 1380), 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

## AWARDS

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- **The HKIE Outstanding Paper Award for Young Engineers and Researchers**, *Hong Kong Institution of Engineers* (HKIE), Hong Kong, China, **Sept., 2009**
- **Best Paper Award**, *International Conference on Database Systems for Advanced Applications (DASFAA)*, Brisbane, Australia, **Apr., 2009**
- **Research Travel Grant**, *Very Large Data Bases Conference (VLDB'10)*, Singapore, **Sept., 2010**
- **Research Travel Grant**, *ACM Conference on the Management of Data (SIGMOD'10)*, Indianapolis, Indiana, USA, **Mar., 2010**
- **Research Travel Grant**, *ACM Conference on the Management of Data (SIGMOD'08)*, Vancouver, Canada, **Jun., 2008**
- **Research Travel Grant**, *International Conference on Data Engineering (ICDE'07)*, Istanbul, Turkey, **Dec., 2006**
- **Postgraduate Studentship**, *The Hong Kong University of Science and Technology*, Hong Kong, China, **2003 ~ 2009**
- **People Scholarship**, *Nanjing University*, China, **2000 ~ 2002**
- **IBM WSAD Certification**, *Nanjing University*, China, **2002**
- **China Undergraduate Mathematical Contest in Modeling (CUMCM)**, the third prize (Jiangsu Province), *Nanjing University*, China, **2002**
- **China Undergraduate Mathematical Contest in Modeling (CUMCM)**, the first prize (Jiangsu Province), *Nanjing University*, China, **2001**
- **The Competition of CKC Chinese Input System**, the third prize, *Nanjing University*, China, **2000**

## REFERENCES

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*References Available Upon Request*

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