

# Lianhua CHI

---

CONTACT	Level 19, 60 City Rd, Southbank IBM Research Victoria, 3006, Australia	Email: Lianhua1221@gmail.com IBM Homepage: <a href="http://goo.gl/YxPhOu">http://goo.gl/YxPhOu</a> Personal Homepage: <a href="https://lianhua1221.github.io/">https://lianhua1221.github.io/</a>
RESEARCH INTERESTS	Machine Learning and Data Mining with particular interests in making sense of big data with effective and agile data analytics, especially with hashing techniques.	
EDUCATION	<p><b>University of Technology Sydney</b>, Sydney, NSW, Australia</p> <p><i>Doctor of Philosophy (Information Technology - Machine Learning)</i>      <b>Feb 2013 – Aug 2015</b></p> <p><b>Huazhong University of Science and Technology</b>, Wuhan, Hubei, China</p> <p><i>Doctor of Philosophy (Computer Software and Theory - Data Mining)</i>      <b>Sep 2009 – Sep 2015</b></p> <p><b>Huazhong University of Science and Technology</b>, Wuhan, Hubei, China</p> <p><i>Master Degree Candidate (Computer Software and Theory - Database)</i>      <b>Sep 2008 – Jul 2009</b></p> <p><b>Wuhan University of Science and Technology</b>, Wuhan, Hubei, China</p> <p><i>Bachelor of Engineering (Computer Science and Technology)</i>      <b>Sep 2004 – Jul 2008</b></p> <p><b>Wuhan University of Science and Technology</b>, Wuhan, Hubei, China</p> <p><i>Bachelor of Literature (English)</i>      <b>Sep 2005 – Jul 2008</b></p>	
SELECTED AWARDS	<p><b>Young Global Changer Award</b> in 2017 by Think Summit GLOBAL SOLUTIONS - G20</p> <p><b>Romberg Grant Award</b> in 2016 by Heidelberg Laureate Forum and University of Heidelberg</p> <p><b>One of Top 200 Young Researchers Globally</b> in 2016 by Heidelberg Laureate Forum</p> <p><b>First Patent Application Invention Achievement Award</b> in 2016 by IBM</p> <p><b>Best Paper Award</b> by 17th Pacific-Asia Conference on Knowledge Discovery and Data Mining</p> <p><b>ARC Discovery Scholarship Award</b> in 2013 by University of Technology Sydney</p> <p><b>Social Welfare Award</b> in 2009 by Huazhong University of Science and Technology</p>	
WORK EXPERIENCE	<p><b>IBM Research</b>, Melbourne, Victoria, Australia</p> <p><i>Postdoctoral Research Scientist</i>      <b>May 2015 – Current</b></p> <p><i>Responsibilities:</i></p> <ul style="list-style-type: none"><li>• Developed and evaluated data correlation analytics on open source datasets from different sectors</li><li>• Optimised hospital resource management with machine learning techniques and SPSS</li><li>• Analysing big data in social media and evaluating event impacts on time series.</li><li>• Working on content analytics for Watson Education and Watson Health</li></ul> <p><i>Achievements:</i></p> <ul style="list-style-type: none"><li>• 7 patents (3 filed, 4 submitted)</li><li>• 4 papers published, 2 abstracts accepted, 2 journals accepted (impact factor: one is 8.82 and the other is 7.384), 1 journal submitted, 1 conference paper submitted</li><li>• Supervised 2 interns on the Geotagger project and Event API project with successful demos</li><li>• Developed an Alpha-maturity asset</li><li>• Received the "put the client first" recognition in IBM Recognition Centre</li></ul>	

University of New South Wales, Sydney, NSW, Australia

**Data Specialist**

**Apr 2015– May 2015**

*Responsibilities:*

- Exploration, interpretation and visualisation of Massive Open Online Courses (MOOC) data

University of Technology Sydney, Sydney, NSW, Australia

**Visiting Researcher**

**Mar 2012– Feb 2013**

*Responsibilities:*

- Collaborated with my colleagues and supervisors to solve existing problems and develop new theories on big data stream classification

DaMeng Database Co., Ltd., Wuhan, Hubei, China

**Software Engineer**

**Jul 2008– Mar 2011**

*Responsibilities:*

- Designed the OLAP system interface and programmed OLAP application using Java
- Managed and designed data warehouse, processing a variety of large-scale data from different data platforms

#### PATENTS

Lianhua Chi, Alessio Bonti, “SYSTEM, METHOD AND COMPUTER PROGRAM FOR A COGNITIVE MEDIA STORY EXTRACTOR AND VIDEO COMPOSER”, US YOR920161026US1, filed 2016.

Lianhua Chi, Bo Han, Anna Phan, Chris Butler, Juerg von Kaenel, “SYSTEM AND METHOD FOR UNSTRUCTURED METADATA CORRELATION”, US YOR920160975US1, filed 2017

Lianhua Chi, Alessio Bonti, “SYBIL IDENTIFICATION MECHANISM FOR FRAUD DOCUMENTS DETECTION THROUGH COGNITIVE BASED PERSONAL ENCRYPTION KEY”, filed 2017

#### JOURNAL PAPERS

**Lianhua Chi**, Bin Li, Xingquan Zhu, Shirui Pan, Ling Chen, “Hashing for Adaptive Real-time Graph Stream Classification with Concept Drifts”, In *IEEE Transactions on Cybernetics*, 2017.

**Lianhua Chi**, Xingquan Zhu, “Hashing Techniques: A Survey and Taxonomy”, In *ACM Computing Survey*, 2017.

Zongmin Cui, Hong Zhu, Jie Shi, **Lianhua Chi** and Ke Yan, “Efficient Authorisation Update on Cloud Data”, In *International Journal of Web and Grid Services*, 12(2), 109–141, Inderscience Publishers (IEL), 2016.

Zongmin Cui, Hong Zhu, **Lianhua Chi**, “Lightweight Key Management on Sensitive Data in the Cloud”, In *Security and communication networks*, 6(10), 1290–1299, Wiley Online Library, 2013.

**Lianhua Chi**, Hehua Chi, Yucai Feng, Shuliang Wang, and Zhongsheng Cao, “Comprehensive and Efficient Discovery of Time Series Motifs”, In *Journal of Zhejiang University SCIENCE C*, 12(12), 1000–1009, Springer, 2011.

Juebo Wu, Hehua Chi and **Lianhua Chi**, “A Cloud Model-based Approach for Facial Expression Synthesis”, In *Journal of Multimedia*, 6(2), 217–224, 2011.

#### SELECTED CONFERENCE AND WORKSHOP PAPERS

**Lianhua Chi**, Saket Sathe, Bo Han, Yun Wang, “A Novel Method for Assessing Event Impacts on Event-Driven Time Series”, in *IEEE International Workshop on Data Mining for Service in ICDM 2016*, 2016

**Lianhua Chi**, Bo Han, Yun Wang, “Open Problem: Accurately Measuring Event Impacts on Time Series”, in *the 2nd SIGKDD Workshop on Mining and Learning from Time Series in KDD16*, 2016

**Lianhua Chi**, Kwan Hui Lim, Nebula Alam, Chris Butler, “Geolocation Prediction in Twitter using Location Indicative Words and Textual Features”, in *the 2nd Workshop on Noisy User-generated Text (W-NUT)*, 2016, pp. 227

Bo Han, Antonio Jose Jimeno Yepes, Andrew MacKinlay and **Lianhua Chi**, “Temporal Modelling of Geospatial Words in Twitter”, in *Australasian Language Technology Association Workshop*, 2016, pp. 133

Hamideh Anjomshoa, Olivia Smith and **Lianhua Chi**, “Machine Learning and Optimisation Tech-

niques in Managing Operating Theatres”, in *28th European Conference on Operational Research*, 2016

Hamideh Anjomshoa and **Lianhua Chi**, “Machine Learning to Predict Patient Demand for Surgeries”, in *24th National Conference of the Australian Society for Operations Research*, pp. 53, 2016

**Lianhua Chi**, Bin Li, Xingquan Zhu, “Context-Preserving Hashing for Fast Text Classification”, in *SIAM International Conference on Data Mining*, 100–108, Philadelphia, Pennsylvania, USA, 2014.

**Lianhua Chi**, Bin Li, Xingquan Zhu, “Fast Graph Stream Classification Using Discriminative Clique Hashing”, In *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 225–236, Gold Coast, Australia, 2013. **(Best Long Paper)**

Ting Guo, **Lianhua Chi**, Xingquan Zhu, “Graph hashing and factorization for fast graph stream classification”, In *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 1607–1612, Burlingame, California, USA, 2013.

Zongmin Cui, Hong Zhu, Jie Shi, **Lianhua Chi** and Ke Yan, “Lightweight Management of Authorization Update on Cloud Data”, In *2013 International Conference on Parallel and Distributed Systems (ICPADS)*, 456–461, 2013.

Bin Li, Xingquan Zhu, **Lianhua Chi**, Chengqi Zhang, “Nested Subtree Hash Kernels for Large-Scale Graph Classification over Streams”, In *IEEE International Conference on Data Mining*, 399–408, Brussels, Belgium, 2012.

Yucai Feng, **Lianhua Chi**, Hehua Chi, Chuanlu Liu, “QoM: An Effective Querying Method for Time Series Database”, In *2012 IEEE International Conference on Granular Computing (GrC)*, 129–134, 2012.

**Lianhua Chi**, Yucai Feng, Hehua Chi and Ying Huang, “Face Image Recognition based on Time Series Motif Discovery”, In *2012 IEEE International Conference on Granular Computing (GrC)*, 72–77, 2012.

#### SELECTED PROFESSIONAL SERVICES

- *Organising Committee, Program Chair (Application Track)* - AusDM 2017: The 15th Australasian Data Mining Conference
- *Program Committee Member (Application Track)* - AusDM 2016: The 14th Australasian Data Mining Conference
- *Reviewer* - WWWJ: World Wide Web Journal
- *Reviewer* - IEEE Intelligent Systems
- *Reviewer* - Australasian Journal of Information Systems

#### SKILLS

- Frontend: HTML/CSS/Javascript
- Languages: Python, R, Matlab, Java, C/C++
- Modelling: scikit-learn, word2vec, Pattern, Keras (TensorFlow)
- Backend: popular SQL and non-SQL databases e.g., MySQL, MongoDB
- Infrastructure: DevOps (Git, Jenkins), clusters (HPC)

#### REFEREES

Available upon request