

Zhiguo Long | Curriculum Vitae

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Education and Experience

October 2016 – present Centre for Quantum Computation and Intelligent Systems
Research Associate *University of Technology Sydney, Australia*

2012 – present Centre for Quantum Computation and Intelligent Systems
PhD Candidate *University of Technology Sydney, Australia*

Thesis Title: Qualitative Spatial and Temporal Representation and Reasoning: Efficiency in Time and Space.

July 2015 – December 2015 School of Computer Science and Informatics
Academic Visitor *Cardiff University, United Kingdom*

Cooperating with Dr. Steven Schockaert as an academic visitor, focusing on the research of compact representation of qualitative spatial information.

2008 – 2012 College of Mathematics
Bachelor of Mathematics *Sichuan University, China*

Majoring in fundamental mathematics. Sichuan University is one of the top universities in China (sponsored by Project 985), and its mathematics program is among the top five nationwide.

Community Service

- I served as a reviewer for the International Journal of Geographical Information Science (IJGIS), which is the flagship journal in geographical information science.
- I also served as a reviewer for the Journal of Spatial Information Science (JOSIS), which is an international, interdisciplinary, open-access journal dedicated to publishing high-quality, original research articles in spatial information science.
- I was a volunteer in the 15th International Conference on Principles of Knowledge Representation and Reasoning (KR 2016).

Research Interests

- Artificial Intelligence
- Geographic Information Science
- Geo-Spatial Database
- Qualitative Spatial Representation and Reasoning
- Applications Involving Qualitative Spatial Information

Publications

Journal Papers.....

The journal **Artificial Intelligence (AIJ)** is the most prestigious journal in the field of artificial intelligence. **International Journal of Geographical Information Science (IJGIS)** is the flagship journal in geographical information science.

- **Long, Z.**, Duckham, M., Li, S., & Schockaert, S.: Indexing large geographic datasets with compact qualitative representation. *International Journal of Geographical Information Science*, 2016, vol. 30, no. 6, pp. 1072–1094. (<https://doi.org/10.1080/13658816.2015.1104535>)
- Li, S., **Long, Z.**, Liu, W., Duckham, M., & Both, A.: On redundant topological constraints. *Artificial Intelligence*, 2015, vol. 225, pp. 51–76. (<https://doi.org/10.1016/j.artint.2015.03.010>)
- **Long, Z.** & Li, S. (2013). A complete classification of spatial relations using the Voronoi-based nine-intersection model. *International Journal of Geographical Information Science*, 2013, vol. 27, no. 10, pp. 2006–2025. (<https://doi.org/10.1080/13658816.2013.781607>)

Conference Papers.....

International Joint Conference on Artificial Intelligence (IJCAI) is one of the two most prestigious conferences in the broad area of artificial intelligence. **International Conference on Principles of Knowledge Representation and Reasoning (KR)** is one of the top conferences in the field of knowledge representation and reasoning. **European Conference on Artificial Intelligence (ECAI)** is one of the top conference in the field of artificial intelligence. **Conference on Spatial Information Theory (COSIT)** is one of the top conferences in the field of geographical information science. **International Conference on Principles and Practice of Constraint Programming (CP)** is a top conference on constraint programming.

- Lee, J. H. & Li, S. & **Long, Z.** & Sioutis, M.: On Redundancy in Simple Temporal Networks. 22nd European Conference on Artificial Intelligence (ECAI 2016), pp. 828–836. (All authors contributed equally. https://www.researchgate.net/publication/305726980_On_Redundancy_in_Simple_Temporal_Networks)
- **Long, Z.** & Sioutis, M., & Li, S.: Efficient Path Consistency Algorithm for Large Qualitative Constraint Networks. 25th International Joint Conference on Artificial Intelligence (IJCAI 2016), pp. 1202–1208. (<http://www.ijcai.org/Proceedings/16/Papers/174.pdf>)
- **Long, Z.** & Schockaert, S., & Li, S.: Encoding Large RCC8 Scenarios Using Rectangular Pseudo-Solutions. 15th International Conference on Principles of Knowledge Representation and Reasoning (KR 2016), pp. 463–472. (<http://www.aaai.org/ocs/index.php/KR/KR16/paper/view/12837>)
- Sioutis, M., **Long, Z.**, & Li, S.: Efficiently Reasoning about Qualitative Constraints through Variable Elimination. 9th Hellenic Conference on Artificial Intelligence (SETN 2016), pp. 1–10. **Best Paper Award.** (<https://doi.org/10.1145/2903220.2903226>)
- **Long, Z.** & Li, S.: On Distributive Subalgebras of Qualitative Spatial and Temporal Calculi. Conference on Spatial Information Theory (COSIT 2015), pp. 354–374. (https://doi.org/10.1007/978-3-319-23374-1_17)
- Kong, S., Li, S., Li, Y., & **Long, Z.**: On Tree-Preserving Constraints. 21st International Conference on Principles and Practice of Constraint Programming (CP 2015), pp. 244–261. (https://doi.org/10.1007/978-3-319-23374-1_17)
- Duckham, M., Li, S., Liu, W., & **Long, Z.**: On Redundant Topological Constraints. 14th International Conference on Principles of Knowledge Representation and Reasoning (KR 2014), pp. 618–621. (<http://www.aaai.org/ocs/index.php/KR/KR14/paper/view/8014>)

Awards

2016: FEIT Post-Thesis Scholarship, University of Technology Sydney.

2016: FEIT HDR Publication Award, University of Technology Sydney.

2016: KR 2016 Conference Student Sponsorship for conference fee and accommodation, KR 2016 Conference Committee.

2015: Travel Grant from FEIT HDR International Experience Program, University of Technology Sydney.

2014: FEIT HDR Publication Award, University of Technology Sydney.

2008 – 2012: National Encouraging Scholarship for Outstanding Undergraduate Students, Sichuan University.

Computer Skills

Operating Systems

Linux, Microsoft Windows

Programming Languages

Java, Python, MATLAB, C, C++, SQL, SPARQL, Bash, JavaScript, HTML, RDF Semantic Web Schema, R

Database

PostgreSQL, PostGIS, H2 Database

Software Libraries

GeoTools, JTS

Tools

LaTeX, Git, Microsoft Office, LibreOffice, Google Docs, SPSS, Origin, PhotoShop

Languages

English: Fluent

Hobbies

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|------------------------|-----------|
| ○ Open Source Projects | ○ Reading |
| ○ Playing Soccer | ○ Cooking |