

# LI, Guoliang

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<http://www.comp.nus.edu.sg/~ligl/>

## Research Interests

Data mining, machine learning, Bayesian networks, Bioinformatics

## Education

Jan 2003 – present [School of Computing, National University of Singapore](#)

PhD candidate in Computer Science (expected graduation: Dec 2008)

- Thesis title: Knowledge discovery with Bayesian networks  
Theme: Learning Bayesian networks with prior domain knowledge, observational data and interventional data for hypothesis generation, refinement and verification in knowledge discovery, and applying in biomedical domains.
- Awarded President's Graduate Fellowship (2005, 2006), research scholarship (2005–2007), Dean's award (2004)
- Published fourteen papers in leading international journals and conferences
- Awarded 10<sup>th</sup> honor of 45 groups in PAKDD 2007 data mining competition (details are available in the official web:  
<http://lamda.nju.edu.cn/conf/pakdd07/dmc07/finalwinner.htm>)

Jul 2001 – Jun 2002 [Singapore-MIT-Alliance, National University of Singapore](#)

Master of Science in Computer Science

- Awarded graduate scholarship

Sept 1998 – Jun 2001 [Institute of Automation, Chinese Academy of Sciences](#)

Master of Engineering in Electrical Engineering

- Developed open framework for robot control with C++
- Formulated new ideas to solve the precision problem in the system

Sept 1990 – Jul 1994 [Xi'an Jiaotong University](#), Xi'an, China

Bachelor of Engineering in Electrical Engineering

- Second prize in National Olympic Math Competition, China
- Exempt from China College Entrance Exam

## Employment History

Jan 2008 – present Teaching Assistant, School of Computing, National University of Singapore

- “Enterprise System Development with JavaBeans”, Prof. Danny POO Chiang Choon
- Conduct seminars, lab supervision and subject consultation, schedule the students for lab and project evaluation, evaluate the student projects, and mark the exam papers

Aug 2002 – Mar 2005 Research Engineer, School of Computing, National University of Singapore

- Developed a system with Java to predict the risk factors in one medical domain and help the doctor's decision with logistic regression and artificial neural network methods
- Built up a software to extract data from database with SQL, pre-process the data with Excel and VBA, and statistically analyze the data
- Designed new algorithms to speed up the process to estimate the probabilities from data

Jul 1994 – Aug 1998 Software Engineer, Automatic Control Research Institute, China

- Designed and developed automatic testing systems with C to achieve best efficiency
- Designed a software system to integrate the components in the system
- Simulated the behavior of the system with MATLAB

### Awards

2005~2007	Research scholarship, School of Computing, National University of Singapore
2006/2007	President's Graduate Fellowship, National University of Singapore
2005/2006	President's Graduate Fellowship, National University of Singapore
2004/2005	<a href="#">Dean's award, School of Computing, National University of Singapore</a>
2001~2002	Research scholarship, Singapore-MIT Alliance (SMA), National University of Singapore
1999	Scholarship of Excellent Graduates of Chinese Academy of Sciences
1996	Certificate for software engineer, issued by Ministry of Personnel, China
1992	Second prize in Higher Physics Competition, Xi'an Jiaotong University, China
1990	Exempt from College Entrance Exam to enter Xi'an Jiaotong University
1989	Second prize in National Olympic Math Competition, China

### Skills

Computer Languages	C/C++, Java, SQL
Operating Systems	Windows, Linux, UNIX
Other Tools	MATLAB, R, Microsoft Office, Internet

### Languages

Spoken	English, Mandarin (native)
Writing	English, Chinese

### References

Available upon request

### Selected Publications

1. **Li, Guoliang**, Steel Mike, Louxin Zhang, More Taxa Are Not Necessarily Better For the Reconstruction of Ancestral Character States, To appear in Systematic Biology
2. AH. Morris, J. Orme,Jr., JD Truwit, J. Steingrub, C. Grissom, KH Lee, **Guoliang Li**, BT Thompson, R. Brower, M. Tidswell, G. Bernard, D. Sorenson, K. Sward, H. Zheng, D. Schoenfeld, H. Warner, A replicable method for blood glucose control in critically ill patients, Critical Care Medicine. 36(6):1787-1795, June 2008
3. **Li, Guoliang**, Tze-Yun Leong, Biomedical Knowledge Discovery with Topological Constraints Modeling in Bayesian Networks: A Preliminary Report, in: World Congress on Health (Medical) Informatics (MedInfo) (IOS Press, Brisbane, Australia, 2007) 560-565.
4. **Li, Guoliang**, Tze-Yun Leong, and Louxin Zhang, Translation Initiation Sites Prediction with Mixture Gaussian Models in Human cDNA Sequences. IEEE Transactions on Knowledge and Data Engineering, 2005. 17(8): p. 1152-1160.
5. **Li, Guoliang** and Tze-Yun Leong, Feature Selection for the Prediction of Translation Initiation Sites. Genomics, Proteomics & Bioinformatics, 2005. 3(2): p. 73-83.
6. **Li, Guoliang** and Tze-Yun Leong, A framework to learn Bayesian Networks from changing, multiple-source biomedical data. in Proceedings of the 2005 AAAI Spring Symposium on Challenges to Decision Support in a Changing World. Stanford University, CA, USA, 66-72.

### Patents

1. Tan Min, Jing Fengshui, Liang Zize, **Li Guoliang**, and Wang Yue. Open framework for industrial robot control, China patent for utility model [CN2447131](#), issued on 2001.09.12
2. Tan Min, Liang Zize, **Li Guoliang**, Jing Fengshui, and Wang Yue. Open framework for industrial robot control through vision, China patent for utility model [CN2510250](#), issued on 2002.09.11
3. Tan Min, Jing Fengshui, Liang Zize, **Li Guoliang**, and Wang Yue. Open control framework for industrial robots, China patent for invention [CN1344600](#), issued on 2002.04.17
4. Tan Min, Liang Zize, **Li Guoliang**, and Jing Fengshui. Open framework for industrial robot control through vision, China patent for invention [CN1417006](#), issued on 2003.05.14