

Jian (Frank) Guo

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EDUCATION

- 2006 – Present **University of Michigan** **Ann Arbor, USA**
Ph.D. Candidate, Department of Statistics
◊ Advisors (joint): Prof. Elizaveta Levina, Prof. George Michailidis and Prof. Ji Zhu
- 1999 – 2003 **Tsinghua University** **Beijing, China**
B.S., Department of Mathematical Sciences

PROFESSIONAL EXPERIENCES

- 2007 **Alliance Data System Corporation** **Ohio, USA**
Associate Consultant (Summer Intern)
Supervisor: Dr. Kaixia Zhang and Dr. Hualin (Max) Wang
◊ Targeted advertising and market segmentation using machine learning techniques
- 2005–2006 **Hong Kong Polytechnic University** **Hong Kong, China**
Research Assistant, Department of Electronic and Information Engineering
Supervisors: Prof. Sun-Yuan Kung (Princeton U.) and Prof. Man-Wai Mak (HK Polytech. U.)
◊ Semi-supervised learning and transductive learning for biological sequence analysis;
◊ Data bi-clustering;
◊ Data fusion and model fusion for machine learning techniques
- 2004 **Hong Kong University of Science and Technology** **Hong Kong, China**
Research Assistant, Department of Computer Science and Engineering
Supervisor: Prof. James Tin-Yau Kwok
◊ Kernel methods for sequential data analysis
- 2003–2004 **IBM China Research Laboratory** **Beijing, China**
Part-time Research Assistant
Supervisors: Dr. Haiqi Liang and Dr. Fengchun (Amy) Wang
◊ Enterprise decision support with Markov process
- 2001–2003 **Tsinghua University** **Beijing, China**
Part-time Research Assistant, National Key Laboratory of Bioinformatics
Supervisors: Prof. Yuanlie Lin and Prof. Zhirong Sun
◊ Analysis of gene regulatory network using graphical models;
◊ Prediction of protein structure and function using machine learning techniques

AWARDS AND HONORS

- 2009 **Student Paper Competition Award**
Statistical Computing and Graphics Sections of American Statistical Association (ASA)
- 2009 **ENAR Distinguished Student Paper Award**
International Biometric Society (IBS)
- 2006–2007 **Rackham Ph.D. Fellowship**
University of Michigan, Ann Arbor

RESEARCH INTERESTS

- Machine learning and variable selection for high-dimensional data analysis and their applications in computer sciences, marketing, finance and bioinformatics
- Network-type data modeling and its applications in analysis of internet, social networks and genetic networks

PUBLICATIONS

Papers Under Review

1. Guo, J. (2009) Class-specific variable selection for multiclass support vector machines. *Submitted*.
2. Guo, J., Levina, E., Michailidis, G. and Zhu, J. (2008) Pairwise variable selection for high-dimensional model-based clustering. *Submitted*.
3. Guo, J., Levina, E., Michailidis, G. and Zhu, J. (2008) Principal component analysis with sparse fused loadings. *Submitted*.

Published Journal Papers

4. Mak, M.W., Guo, J. and Kung, S.Y. (2008) PairProSVM: protein subcellular localization based on local pairwise profile alignment and SVM. *IEEE/ACM Transaction on Computational Biology and Bioinformatics*, 5 (3): 416-422.
5. Pu, X., Guo, J., Lin, Y., Leung, H. (2007) Prediction of membrane protein types from sequences and position-specific scoring matrices. *Journal of Theoretical Biology*, 247 (2): 259-265.
6. Guo, J., Lin, Y., Liu, X. (2006) GNBSL: a new integrative system to predict subcellular location for gram-negative bacteria proteins. *Proteomics*, 6 (19): 5099-5105.
7. Guo, J. and Lin, Y. (2006) TSSub: eukaryotic protein subcellular localization by extracting features from profiles. *Bioinformatics*, 22 (14): 1784-1785.
8. Guo, J., Pu, X., Lin, Y. and Leung, H. (2006) Protein subcellular localization based on psi-blast and machine learning. *Journal of Bioinformatics and Computational Biology*, 4 (6): 1181-1195.
9. Guo, J., Chen, H., Sun, Z. and Lin, Y. (2004) A novel method for protein secondary structure prediction using dual-layer SVM and profiles. *Proteins: Structure, Function and Bioinformatics*, 54: 738-743.

Published Conference Papers

10. Guo, J., Mak, M.W. and Kung, S.Y. (2006) Eukaryotic protein subcellular localization based on local pairwise profile alignment SVM. 2006 *IEEE International Workshop on Machine Learning for Signal Processing (MLSP06)*, Maynooth, Ireland, pp. 391-396.

11. Guo, J., Lin, Y. and Sun, Z. (2005) Residue-couple model for protein subcellular localization prediction. *The Third Asia-Pacific Bioinformatics Conference (APBC05), Singapore*, pp. 117-129.
12. Guo, J., Lin, Y. and Sun, Z. (2004) A novel method for protein subcellular localization prediction based on boosting and probabilistic neural network. *The Second Asia-Pacific Bioinformatics Conference (APBC04), Dunedin, New Zealand*, pp. 21-27.

COMPUTER SKILLS

- Programming languages: C/C++, Visual Basic, Java, Perl, Matlab, R
- Operating systems: Windows, Unix, Linux, Mac

REFERENCES

Elizaveta Levina, Assistant Professor

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