Input Space Partitioning for Machine Learning

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**TIME**  10:00 am - 11:00 am  
**VENUE**  CS Seminar Room, Y6405, 6th Floor  
Yellow Zone, Academic 1  
City University of Hong Kong  
83 Tat Chee Avenue  
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**ABSTRACT**

This talk introduces an input attribute grouping method to improve the performance of learning. During training for a specific problem, the input attributes are partitioned into groups according to the degree of inter-attribute promotion or correlation that quantifies the supportive or negative interactions between attributes. After partitioning, multiple sub-networks are trained by taking each group of attributes as their respective inputs. The final classification result is obtained by integrating the results from each sub-network. Experimental results on several UCI datasets demonstrate the effectiveness of the proposed method.

**BIOGRAPHY**

Steven Guan received his MSc & PhD from the University of North Carolina at Chapel Hill. He is currently the director of the Research Institute for Big Data Analytics at Xi’an Jiaotong-Liverpool University (XJTLU). He served the head of department position at XJTLU for 4.5 years, creating the department from scratch and now in shape. Before joining XJTLU, he was a tenured professor and chair in intelligent systems at Brunel University, UK.

Prof Guan has worked in a prestigious R&D organization for several years, serving as a design engineer, project leader, and department manager. After leaving the industry, he joined Yuan-Ze University in Taiwan for three and half years. He served as deputy director for the Computing Center and the chairman for the Department of Information & Communication Technology. Later he joined the Electrical & Computer Engineering Department at National University of Singapore as an associate professor.

Prof Guan’s research interests include: machine learning, computational intelligence, modeling, security, networking, e-commerce, computer supported cooperative work, operating systems, and pseudorandom number generation. He has published extensively in these areas, with 130 journal papers and 170+ book chapters or conference papers. He has chaired and delivered keynote speeches for 20+ international conferences and served in 140+ international conference committees and 20+ editorial boards.

All are welcome!

*In case of questions, please contact Dr Chee Wei TAN at Tel: 3442 7652, E-mail: cheewitan@cityu.edu.hk, or visit the CS Departmental Seminar Web at [http://www.cs.cityu.edu.hk/news/seminars/seminars.html](http://www.cs.cityu.edu.hk/news/seminars/seminars.html).*