

**YAN LIU, PhD**

Assistant Professor of Industrial and Human Factors Engineering  
 Department of Biomedical, Industrial and Human Factors Engineering  
 Wright State University  
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**EDUCATION**

<b>PhD</b>	School of Industrial Engineering	Purdue University, W. Lafayette	2006
<b>MS</b>	School of Industrial Engineering	Purdue University, W. Lafayette	2001
<b>BS</b>	Department of Mechanical Engineering	University of Sci. & Tech. Beijing, P.R. China	1998
<b>Graduate Certificate of Applied Statistics</b>	Department of Statistics	Purdue University, W. Lafayette	2005
<b>Graduate Certificate of Applied Management Principle</b>	School of Management	Purdue University, W. Lafayette	2004

**RESEARCH INTERESTS**

Human-Computer Interaction, Information Visualization, Data Mining, Agent-Based Modeling, Human Decision Making, Cross-Cultural Studies

**PROFESSIONAL EXPERIENCE**

<b>Assistant Professor</b>	Department of Biomedical, Industrial and Human Factors Engineering, Wright State University	2006 ~ Present
<b>Research Assistant</b>	School of Industrial Engineering, Purdue University	2000 ~ 2006
<b>Graduate Database Programmer</b>	School of Education, Purdue University	2003 ~ 2006
<b>Teaching Assistant</b>	Department of Mathematics, Purdue University	2002
<b>Engineer Intern</b>	Blue Ridge Metals Corp., Asheville, NC	05/2002 ~ 08/2002
<b>Assistant Engineer</b>	Beijing Hua-Run Mech. & Elec. Inc, Beijing, P.R. China	1998 ~1999

## AWARDS and RECOGNITION

<b>ASEE U.S. Air Force Summer Faculty Fellowship</b>		2009
<b>ASEE U.S. Air Force Summer Faculty Fellowship</b>		2008
<b>Bisland Dissertation Fellowship</b>	Purdue University	2005
<b>Graduate Student Travel Grant</b>	Purdue University	2005
<b>Certificate of Appreciation</b>	Blue Ridge Metals Corp., Asheville, NC	2002
<b>The Top Rank Student Scholarship</b>	University of Sci.& Tech. Beijing, P.R. China	1997
<b>Bao Steel Excellent Student Scholarship</b>	University of Sci.& Tech. Beijing, P.R. China	1996
<b>SONY Excellent Student Scholarship</b>	University of Sci.& Tech. Beijing, P.R. China	1995
<b>Title of “Beijing Three-Honor Excellent Student”</b>	Beijing, P.R. China	1995

## PUBLICATIONS

### REFEREED JOURNALS

#### Published or Accepted

1. Liu, Y. and Salvendy, G. (2009). Effects of Measurement Errors on Psychometric Measurements in Ergonomics Studies: Implications for Correlations, ANOVA, Linear Regression, Factor Analysis, and Linear Discriminant Analysis. *Ergonomics* (In Press).
2. Liu, Y. and Nof, S.Y. (2008). Fault-Tolerant in Distributed Micro Flow-Sensor Arrays and Networks. *Computers & Industrial Engineering*, 54, 634-647.
3. Liu, Y. and Salvendy, G. (2007). Visualization Support to Better Understand and Improve Decision Tree Mining Process: A Survey and Appraisal. *Theoretical Issues in Ergonomics Science*. 8(1), 63-92.
4. Liu, Y. and Salvendy, G. (2006). Design and Evaluation of Interactive Visual Decision Tree Classification. *International Journal of Human-Computer Studies*, 65(2), 95-110.
5. Liu, Y. and Salvendy, G. (2006). Design and Evaluation of Visualization Support to Facilitate Association Rules Modeling”, *International Journal of Human-Computer Interaction*, 21(1), 15-38.

6. Liu, Y. and Salvendy, G. (2005). Visualization Support to Facilitate Association Rules Mining Process: A Survey. *Ergonomia.-An International Journal of Ergonomics and Human Factors*, 27(1), 11-23.
7. Liu, Y. and Nof, S.Y. (2004). Distributed Micro Flow-Sensor Arrays and Networks: Design of Architectures and Communication Protocols. *International Journal of Production Research*, 42(15), 3101-3115.
8. Williams, N.P., Liu, Y., and Nof, S.Y. (2003). Analysis of Workflow Protocol Adaptability in TestLAN Production Systems. *IIE Transactions on Manufacturing and Design*, 35(10), 965-972.
9. Williams, N.P., Liu, Y., and Nof, S.Y. (2002). TestLAN Approach and Protocols for the Integration of Distributed Assembly and Test Networks. *International Journal of Production Research*, 40(17), 4505-4522

#### Under Review

1. Reis, G., Liu, Y., Havig, P., and Heft, E. The effects of depth and eccentricity on visual search in a depth display. Submitted to *Computers in Industry*, November 2008

#### **BOOK REVIEW in REFEREED JOURNALS**

1. Liu, Y. (2009). Cognitive Aspect of Design. *International Journal of Human-Computer Interaction* (in press)

#### **BOOK CHAPTERS**

1. Liu, Y. (2007). Data Mining and its applications in digital human modeling. In Vincent Duffy (Ed), *Handbook of Human Digital Modeling*. Boca Raton, FL: Taylor and Francis, LLC. 37-1 – 37-15.
2. Liu, Y. (2006). Visualization Support to Data Mining Modeling. In Waldemar Karwowski (Ed), *2nd Edition of International Encyclopedia of Ergonomics and Human Factors* (pp.1353-1356). Oxford, UK: Taylor and Francis.

#### **REFEREED CONFERENCE PROCEEDINGS**

1. Zheng, L., Wang, S., Liu, Y., and Lee, C-H. (2009). Information theoretic regularization for semi-supervised boosting. ACM SIGKDD 2009. Paris, June 28 – July 1, 2009.
2. Reis, G., Liu, Y., Havig, P., and Heft, E. (2008) Investigating the effects of depth on visual search in the multi-layered display. In *2<sup>nd</sup> International Conference on Applied Human Factors and Ergonomics*, CD-ROM, July 2008, Las Vegas, Nevada. (Invited)
3. Liu, Y. and Salvendy, G. (2007). Interactive decision tree modeling. In *12th International Conference on Human-Computer Interaction*, CD-ROM, July 2007, Beijing, China. Lawrence Erlbaum Associates, Inc.

4. Liu, Y. and Salvendy, G. (2005). Interactive visual association rules modeling. In *11th International Conference on Human-Computer Interaction*, CD-ROM, July 2005, Las Vegas, Nevada, Lawrence Erlbaum Associates, Inc.
5. Liu, Y. and Nof, S.Y. (2001). Distributed micro flow-sensor network design and modeling. *Proceedings of IFAC Workshop on Manufacturing, Modeling for Management and Control*, Prague, C.R., pp. 127-132.

### **PATENT PENDING**

1. Nof, S.Y. Liu, Y., and Jeong, W. (2007). "Fault-Tolerant Time-Out Communication Protocol with Sensor Integration", Pending, Purdue Ref. No: P-62028.30 US

### **PRESENTATIONS**

1. "Investigating the Effects of Depth on Visual Search in the Multi-Layered Display", International Symposium in honor of Professor Gavriel Salvendy, Purdue University, West Lafayette, IN, August 2008
2. "Data Mining and Information Visualization", IEEE Dayton Chapter Meeting, December, 2006
3. "Design and Evaluation of Interactive Visual Data Mining Modeling", Department of Industrial, Systems, and Operations Engineering, Arizona State University, Tempe, AZ, March 2006
4. "Distributed micro flow-sensor network modeling", Meeting of Indiana 21<sup>st</sup> Century Research and Technology Fund, Purdue University, West Lafayette, IN, January 2002
5. "Design of distributed micro flow-sensor array and network", Production, Robotics, and Integration Software for Manufacturing and Management (PRISM) Symposium, Purdue University, West Lafayette, IN, October 2001
6. "Design of distributed micro flow-sensor array and network", Meeting of Indiana 21<sup>st</sup> Century Research and Technology Fund, Purdue University, West Lafayette, IN, May 2001

### **GRANTS AND CONTRACTS**

"Studying Trust in Multinational and Multicultural Distributed Teams Using Agent-Based Modeling and Simulation (ABMS) and Data Mining (DM)", ASEE US Air Force Summer Faculty Fellowship. June – August, 2009.

"Understanding the Influence of National and Organizational Cultures on Trust in Multinational and Multicultural Distributed Teams". ASEE US Air Force Summer Faculty Fellowship. June – August, 2008.

“Investigation of Day-to-Day and Individual Variability in Physiology-Based Operator Functional State Assessment”. Dayton Area Graduate Studies Institute. Principal Investigator. June 2009 – May 2010.

“Fate of Chemical Agents, Statistical Analysis of Data Support”. General Dynamics Information Technology. Technical Lead. February 2008 ~ August 2008.

“Effective Decision-Support Systems Integrated with Data Mining and Visualization Techniques for Decision-Making in Complex Environments”. Research Challenge Award. Wright State University. Principal Investigator. January 01, 2007 ~ December 31, 2007.

“Applying Data-Mining and Visualization Techniques to Facilitate Decision-Making”. Research Challenge Award. Wright State University. Principal Investigator. September 2006 ~ December 2008.

## **PROFESSIONAL SERVICE**

<b>Editorial Board</b>	Human Factors and Ergonomics in Manufacturing (2009-2011)
<b>Editorial Board</b>	International Journal of Human-Computer Interaction (2008-2010)
<b>Scientific Board Member</b>	Human-Computer Interaction International 2009 Conference
<b>Scientific Board Member</b>	Applied Ergonomics International 2008 Conference
<b>Technical Session Chair</b>	Human-Computer Interaction International 2005 Conference

Served a referee for journals of Applied Ergonomics, Automation in Construction, Behaviour and Information Technology, Computers & Industrial Engineering, Computers in Industry, IEEE Transactions on Systems, Man, and Cybernetics, IFAC Control Engineering, IIE Transactions on Manufacturing and Design, International Journal of Human-Computer Studies, International Journal of Human-Computer Interaction, International Journal of Production Research, and International Journal of Computer Integrated Manufacturing.