Liping Liu

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Department of Management
University of Akron
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EDUCATION

PhD in Business with a concentration in Decision Support Systems and a minor in Information Systems, School of Business, University of Kansas, Lawrence, Kansas, 1995, GPA: 4.0/4.0. Dean's List, 1991-1995; *The Honor Society of Beta Gamma Sigma*, 1995; *The Honor Society of Phi Kappa Phi*, 1995; *Elizabeth M. Hoyt Scholarship in Business*, 1991.

MS in Systems Engineering, Huazhong University of Science and Technology, Wuhan, China, 1991, GPA: 92%.

BE in Civil Engineering, Wuhan University, Wuhan, China, 1987, GPA: 90%. (The first across-university double major in China, 1984-1987)

BS in Applied Mathematics, Huazhong University of Science and Technology, Wuhan, China, 1986, GPA: 91%. *University Merit Scholar* (2 recipients per year), 1983-1986.

ACADEMIC EXPERIENCE

Teaching Experiences

09/06-Date: Professor of Management and Information Systems, College of Business Administration, University of Akron, OH 44325-4801

09/01-08/06: Associate Professor of Management and Information Systems, College of Business Administration, University of Akron, OH 44325-4801

06/99-08/01: Assistant Professor of Information Systems, College of Business and Administration, Southern Illinois University, Carbondale, IL 62901

08/97-05/99: Assistant Professor of Information Systems, Sigmund Weis School of Business, Susquehanna University, Selinsgrove, PA 17870

08/95-07/97: Assistant Professor of Management and Information Systems, School of Business, Albany State University, Albany, GA 31705

06/86-09/87: Lecturer, School of Energy and Power Engineering, Huazhong University of Science and Technology, Wuhan, China

Teaching Grants and Awards

- Summer Course Development Grant, Southern Illinois University, 2001
- *Tip of the Hat Award*, Southern Illinois University, 2000-2001
- *College of Business Teaching Honor Roll*, Southern Illinois University, 2000-2001

- The Academic Cooperative Instructional Grant Award $47,235, 2000-2001
- *Undergraduate Teaching Fellowship*, Southern Illinois University, 1999-2000
- The Academic Cooperative Instructional Grant Award $48,000, 1998-1999
- The Academic Cooperative Instructional Grant Award $21,000, 1997-1998
- Gifts-in-Kind:
    - *IBM Scholars Program*, over one million dollars of software lab licenses for IBM DB2, Web Sphere server and development tools, Lotus, Rational Rose, Visual Age development tools, and Unix operating systems, 2001-Date
    - *Oracle Academic Alliance*, over 3 mission dollars of software licenses for Oracle Database, Oracle Designer, Oracle Developers, and Oracle Data warehouse and data mining tools, 1995-2001.

Undergraduate Courses Taught

- Business Applications Programming, University of Akron (Fall 2005, Summer 2005, Fall 2004, Summer 2004, Spring 2002)
- Systems Analysis and Design, University of Akron (Fall 2001- Summer 2005), Susquehanna University (Fall 1997-Fall 1998), Albany State University (Spring 1996-Spring 1997)
- E-Business Systems Integration, University of Akron (Fall 2005, Fall 2004, Fall 2003)
- E-Business Infrastructure Management, University of Akron (Spring 2002)
- Automated Systems Development, Southern Illinois University (Fall 1999-Spring 2001)
- Database Management, Southern Illinois University (Fall 1999-Spring 2001), Albany State University (Winter 1996)
- Database Programming, Susquehanna University (Spring 1998-Spring 1999)
- Web-Based Applications Development, Susquehanna University (Spring 1999)
- Systems Development, Susquehanna University (Fall 1997-Fall 1998)
- Using Databases, Susquehanna University (Fall 1997-Fall 1998)
- Artificial Intelligence, Susquehanna University (Fall 1997)
- Business Information Systems, Albany State University (Summer 1996-Winter 1997)

Graduate Courses Taught

- Business Applications Programming, University of Akron (Fall 2005)
- Information Techniques for Managers, University of Akron (Fall 2002)
- Telecommunications Management, University of Akron (Fall 2001)
- Database Management, University of Akron (Spring 2004, Spring 2005), Albany State University (Fall 1995-Summer 1997)
- Systems Analysis and Design, Southern Illinois University (Summer 1999-Summer 2001)

Professional Training Courses Taught

- Oracle Performance Tuning (for Oracle Administrators and Programmers), Trailmobile Data Center, June 2000
- Advanced Oracle Forms and Reports (for senior programmers), Trailmobile Data Center, May 2000
- Advanced Oracle PL/SQL Programming (for senior programmers), Trailmobile Data Center, April 2000
- SQL Programming using Oracle (for database operators), Trailmobile Data Center, March 2000

- Oracle 7™ (for local businesses), Albany State University (Winter 1996, Fall 1996, Spring 1997, Summer 1997)
- Web Design (for local businesses and university faculty and staff), Albany State University (Spring 1996, Summer 1996, Fall 1996, Winter 1997, Spring 1997, Summer 1997)

Independent Study Courses Taught

- *Advanced Topics for Independent Studies*: Systems Design, Java Programming, Component-Based Development, e-Commerce Development, and Network Administrations
- *Internship Projects*: Help Desk, Online Student Registration, Online Travel Agency, Web-based Lab Management, and Oracle Implementations

Doctoral Committees

- Chaired three doctoral committees for Elizabeth Grandon, Qingxiong Ma, and Philip Sheng at Southern Illinois University, Carbondale, IL, 2000-2001.
- Served on all dissertation committees in the areas of Information Systems at Southern Illinois University, Carbondale, IL, 1999-2001.

Curriculum Development

- Re-designed the undergraduate MIS Program at Southern Illinois University, and acted as the MIS Area Coordinator in the Department of Management, 1999-2001.
- Re-engineered all the MIS courses for the Information Systems Program at Susquehanna University, 1997-1999.
- Proposed the MIS Program and developed the curriculum for the School of Business, Albany State University, 1995-1997.

RESEARCH AND PUBLICATIONS

Research Grants and Awards

- *Best Paper Nomination*, "How Performance and Self-Efficacy Influence the Ease of Use of Object-Orientation: The Moderating Effect of Prior Training," at 36th Hawaii International Conference on Systems Sciences, Big Island, Hawaii, January 6 – 9, 2003
- Susquehanna University Faculty Research Grant Award $2,000, 1998-1999
- Doctoral Student Research Competition Award $3,000, 1994-1995
- *The Max E. Fessler Best Dissertation Award*, University of Kansas, 1995
- Doctoral Dissertation Fellowship $5000, University of Kansas, 1995
- Doctoral Student Research Competition Award $2,500, 1993-1994
- Doctoral Student Research Competition Award $2,500, 1992-1993
- The University of Kansas General Research Grant Award $4,500, 1992-1993
- *China's National Outstanding Research Achievement Award*, "The Long Term Planning for Anlu City Economic and Technical Development," Hubei Province Science and Technology Commission, 1987.
- *The Best Student Research Paper*, "Generalized Metric Space Analysis," Hubei Province Education Commission, 1985.

Books

1. (Dempster, A. P., Yager, R. R., Liu, L.) "*Classic Works on Theory of Evidence*," (A Volume of Best Papers on the Dempster-Shafer Theory of Belief Functions), Springer-Verlag, New York, NY, in press.
2. (Liu, L. and B. Roussev) "Management of Object-Oriented Development Processes," Idea Group Publishers, Hershey, PA, 2006.

Refereed Journal Articles

1. (Liu, L., Elizabeth E. Grandon, and Steven R. Ash) "Training reactions and task performance: a study of open training in object-oriented systems development," *Journal of Information Systems and e-Business Management*, in press.
2. (Liu, L., C. Shenoy, and P. P. Shenoy) "Knowledge Representation and Integration for Portfolio Evaluation Using Linear Belief Functions," *IEEE Transactions* on *Systems, Man, and Cybernetics*, Series A, vol. 36 (4), 2006, pp. 774-785.
3. (Liu, L. and Q. Ma) "Perceived System Performance: A Test of an Extended Technology Acceptance Model," *Data Bases*, Vol. 37 (2-3), 2006, pp. 51-59.
4. (Steven R. Ash and L. Liu) "Training reactions: what do we really know?" Training & Management Development Methods, Vol. 20 (5), 2006, pp. 13-18.
5. (Liu, L. and Ma, Q.) "The impact of service level on the end user's acceptance of application service oriented medical records," *Information and Management*, 42(8), 2005, 1121-1135.
6. (Ma, Q. and Liu, L.) "The role of Internet self-efficacy in the acceptance of Web-based electronic medical records," *Journal of Organization and End User Computing*, 17(1), 38-57, 2005.
7. (Liu, L.) "A new foundation for the mean-variance analysis," *European Journal of Operational Research*, **158**, 229-242, 2004.
8. (Liu, L. and Shenoy, P. P.) "Representing asymmetric decision problems using coarse valuations," *Decision Support Systems*, **37** (1), 119-135, 2004.
9. (Liu, L.) "A note on Luce-Fishburn axiomatization of rank-dependent utility," *Journal of Risk and Uncertainty*, **28** (1), 55-71, 2004.
10. (Ma, Q. and Liu, L.) "The technology acceptance model: A meta-Analysis of empirical findings," *Journal of Organizational and End User Computing*, **16** (1), 59-72, 2004.
11. (Srivastava R. P. and Liu, L.) "Applications of Belief Functions in Business Decisions: A Review," *Information Systems Frontier: A Journal of Research and Innovation*, **5** (4), 359-378, 2003.
12. (Liu, L. and Ma, Q.) "Emerging e-business technologies for electronic medical records," *International Journal of Healthcare Tecohnology and Management*, **5**, 157-178, 2003
13. (Liu, L.) "Special Issue on the Dempster-Shafer Theory of Evidence: An Introduction," *International Journal of Intelligent Systems*, **18** (1), 1-4, 2003.

14. (Liu, L.) “Local Computation of Gaussian Belief Functions”, *International Journal of Approximate Reasoning*, **22**, 217-248, 1999.

15. (Liu, L.) “Approximate Portfolio Analysis," *European Journal of Operational Research*, **119**, 35-49, 1999

16. (Liu, L.) "A theory of Gaussian belief functions," *International Journal of Approximate Reasoning*, **14**, 95-126, 1996.

17. (Liu, L. and Shenoy, P. P.) "A theory of coarse utility," *Journal of Risk and Uncertainty*, **11**, 17–49, 1995.

18. (Liu, L.) "Stability analysis of dynamic equilibria," *Journal of Mathematical Analysis and Applications*, **193**, 800-816, 1995.

19. (Liu, L.) "Characterization of nondominated controls in terms of solutions of weighting problems," *Journal of Optimization Theory and Applications*, **77**, 545-561, 1993.

20. (Liu, L. and Chen T.) "Multiobjective control for evidence-finding processes," *Acta Automatica Sinica* (The Journal of Chinese Academy of Sciences on Automatic Control), 19 (5), 527–534, 1993.

21. (Liu, L. and Chen, T.) "On the stationariness of efficient solution sequences in the multistage decision process," *Acta Automatica Sinica* (The Journal of Chinese Academy of Sciences on Automatic Control), 19 (2), 170–176, 1993.

22. (Liu, L.) "Causal relation analysis," *Journal of Huazhong University of Science & Technology*, 20 (1), 13-20, 1992.

23. (Liu, L.) "On synergetic decision structures," *Journal of Systems Engineering*, (The Journal of the Systems Engineering Society of China), 6(2), 79-91, 1991.

24. (Liu, L.) "On the mechanism of water-sediment motion in caecum-form rivers," *Journal of Huazhong University of Science & Technology*, 19 (3), 21-28, 1991.

25. (Liu, L.) "Automatic control in the service of mankind: A review of IFAC 1990 World Congress," *International Academic Developments*, 2, 68-82, 1991.

26. (Liu, L.) "Artificial neural network and its development," *Research and Development*, 1 (1), 1-8, 1991.

27. (Liu, L.) "Multicriterion harmony decision making," *Advances in Modeling and Simulation*, 20 (1), 29-42, 1990.

28. (Liu, L.) "System isomorphism representation and function analysis," *Advances in Modeling and Simulation*, 19 (4), 17-24, 1990.

29. (Liu, L.) "The HUST energy model for an industrial enterprise (HEEM) and its application," *Advances in Modeling and Simulation*, Beijing, China: Higher Education Press, 1990.

30. (Liu, L. and Chen T.) "Modified Leontief model and waste energy recovery plan for petrochemical enterprises," *Theory and Practice of Systems Engineering* (A Quarterly Journal of Chinese Academy of Sciences on Systems Engineering), 10 (2), 58-64, 1990.

31. (Liu L. and Cheng, S. M.) "An energy model for petrochemical plants," *Journal of Huazhong University of Science & Technology*, 18 (3), 31-38, 1990.

32. (Liu, L. and Chen, T.) "On system isomorphism," *Journal of Systems Science & Mathematical Sciences* (The Journal of Chinese Academy of Sciences on Systems Sciences), 9 (3), 243-249, 1989.

33. (Liu, L. and Li, K.) "A rural energy planning," *Journal of Huazhong University of Science & Technology*, 17 (6), 35-42, 1989.

34. (Cheng, S. and Liu, L.) "MEDEE Energy Model," *Energy Engineering*, **4** (5), 7-10, 1986.

Refereed Book Chapters

1. (Liu, L. and B. Vijayaraman) "Information Integration: A Review of Emerging e-Business Technologies," *Handbook of IT in Organisations and Electronic Markets*, Angel J. Salazar and Steve Sawyer (eds.), World Scientific Press, 2007.

2. (Ma, Q. and Liu, L.) "The role of Internet self-efficacy in the acceptance of Web-based electronic medical records," *Advanced Topics in End-User Computing*, Volume 5, Idea Group Publishing, 2006, pp. 54-76.

3. (Ma, Q. and Liu, L.) "The technology acceptance model: A meta-Analysis of empirical findings," *Advanced Topics in Organizational and End User Computing*, Volume 4, Idea Group Publishing, 2005, pp. 112-127.

4. (Liu, L. and Ma, Q.) "Emerging e-Business Technologies for Electronic Medical Records," In Angel Salazar, Ray Hackney, and Jeremy Howells (eds.) *Innovation Management in the Knowledge (Digital) Age: Strategic Transformation in Healthcare Organizations*, Amsterdam, NL: IOS Press, 2003.

5. (Liu, L., C. Shenoy, and P. P. Shenoy) "A linear belief function approach to portfolio Evaluation," in C. Meek and U. Kjaerulff (eds.), *Uncertainty in Artificial Intelligence*, **19**, San Francisco, CA: Morgan Kaufmann, 370-377, 2003.

6. (Yu, P. L. and Liu, L.) "A foundation of principles for expanding habitual domains," in M. Karwan, J. Spronk, and J. Wallenius (eds.), *Essays in Decision Making—A Volume in Honor of Stanley Zionts*, Berlin: Springer-Verlag, 185-200, 1997.

7. (Liu, L.) "Propagation of Gaussian belief functions," in D. Fisher and H. Lenz (eds.), *Learning from Data: Artificial Intelligence and Statistics* ***V***. New York: Springer-Verlag, 79-88, 1996.

8. (Liu, L.) "On synergetic decision making," in Ü. Jaaksoo and V.I. Utkin (eds.), *Automatic Controls* ***VI***, Oxford, UK: Pergamon Press, 371-378, 1991.

9. (Liu, L.) "A rural energy model," in S. W. Zhu (ed.), *Techno-Economics of Rural Energy in China*, Beijing, China: Water Conservancy and Power Press, 36–45, 1988.

Refereed Proceedings

1. (Liu, L.) "Usability and Efficacy Reactions to Object-Orientation: The Impact of Prior Knowledge," *Proceedings of the Second Annual Workshop on Human-Computer Interaction Research in Management Information Systems*, Seattle, Washington, December 12-13, 2003, 70-74. (Selected as one of 7 best papers to be reviewed for a special issue of *Journal of Management Information Systems*)

2. (Ma, Q. and Liu, L.) "The role of Internet self-efficacy in accepting Web-based medical records," *Proceedings of 9th Americas Conference on Information Systems*, Tampa, FL, August 4-6, 2003, 890-900.

3. (Liu, L. and Li, C.) "A Second-Order Factor Model of Trust in Internet Stores," Proceedings of the 4th World Congress on the Management of Electronic Business, Hamilton, Ontario, Canada, January 15-17, 2003.

4. (Liu, L. and Grandon, E. E.) "How performance and self-efficacy influence the ease of use of object-orientation: The moderating effects of prior training," *Proceedings of the 36th Hawaii International Conference on Systems Sciences*, Big Island, HI, January, 2003, 10 pages. (The Best Paper Nomination).

5. (Liu, L., Li, C., and Karau, S. J.) "A Measurement Model of Trust in Internet Stores," *Proceedings of the 2nd International Conference on Electronic Business*, Taipei, Taiwan, December 2002, 88-90.

6. (Liu, L. and Chi L. N.) "Evolution Data Quality: A theory-Specific View," *Proceedings of the 7th International Conference on Information Quality*, Cambridge, MA, November 2002, 292-304.

7. (Liu, L. and Grandon, E. E.) "Revolution or evolution? A cognitive comparison of analysis methods," *Proceedings of 2002 Decision Sciences Institute Meeting*, San Diego, CA, November 2002, 1364-1370.

8. (Ma, Q. and Liu, L.) "On acceptance of a web-based medical record system," *Proceedings of 2002 Decision Sciences Institute Meeting*, San Diego, CA, November 2002, 1264-1270.

9. (Roussev, B. and Liu, L.) "Distributed computing using Java: A comparison of two server designs," *Proceedings of 2002 Decision Sciences Institute Meeting*, San Diego, CA, November 2002, 1149-1155.

10. (Grandon, E. E. and Liu, L.) "Is object-oriented modeling easy of learn and use? A confirmatory factor analysis," *Proceedings of the 8th Americas Conference on Information Systems*, Dallas, TX, August, 2002, 1166-1176.

11. (Grandon E. E. and Liu, L.) "An Empirical Study of How Structured Modeling Experience Affects the Performance of Applying Object-Oriented Analysis Methodology", *Proceedings of 2001 Decision Sciences Institute Meeting*, 373-375, San Francisco, CA, November 2001.

12. (Liu, L. and Shenoy, P. P.) "Coarse Valuations Network", *Proceedings of 2000 Decision Sciences Institute Meeting*, Volume II, 474-476, Orlando, FL, November 2000.

13. (Liu, L.) "Conditional Belief Functions," *Proceedings of 1998 Decision Sciences Institute Meeting*, Volume II, 589-591, Las Vegas, NV, November 1998

14. (Liu, L.) "Uncertainty Reasoning Using Gaussian Belief Functions," *Proceedings of 4th International Symposium on Artificial Intelligence and Mathematics*, Ft. Lauderdale, FL, January 1996.

15. (Liu, L. and Shenoy, P. P.) "A decomposition method for asymmetric decision problems," *Proceedings of 1995 Decision Sciences Institute Meeting*, Volume II, 589-591, Boston, MA, November 1995.

16. (Belcher, M. C. and Liu, L.) "Willingness to invest in lighting energy reduction in industrial buildings," *Proceedings of 3rd European Conference on Energy-Efficient Lighting*, 289-296, Newcastle-upon-Tyne, UK, 1995.

17. (Liu, L.) "A portfolio selection model based on coarse utilities," *Proceedings of 1994 Decision Sciences Institute Meeting*, Volume I, 264–266, Honolulu, Hawaii, 1994.

Articles Under Review:

10. (Liu, L. and Grandon, E. E.) "How prior training in structured modeling affects the performance in object-oriented analysis," under second revise and resubmit for *Management Science*.

11. (Liu, L.) "Process-Oriented Metrics of Data Quality," under revise and resubmit for *Journal of Information Systems*.

12. (Liu, L. and Grandon, E. E.) "How performance and self-efficacy influence the ease of use of object-orientation: The moderating effect of prior training," under revise and resubmit for *Information and Management*.

13. (Liu, L. and Chi L. N.) "Evolution Data Quality: A theory-Specific View," under revise and resubmit for *Journal of Database Management*.

14. (Liu, L.) "Usability and Efficacy Reactions to Object-Orientation: The Impact of Prior Knowledge," under review for *Journal of Management Information Systems*.

15. (Liu, L., Grandon, E. E. and Ash, S.) "Trainee Reactions and Task Performance: A Study of Open Training in Object-Oriented Systems Development," under review for *Human Resource Management*

16. (Liu, L. and Zhu, D.), "An Integrated E-Service Framework for Electronic Medical Records," under review for *WITS'05*.

Books in Progress (Draft Version Finished):

1. (Liu, L.) "*Taming Complexity for Decision Making: A Theory of Coarse Utility and Its Applications*," to be submitted to Sprinter-Verlag.

2. (Liu, L.) "*Systems Design with Oracle Designer*," to be published under agreement with Scott/Jones Inc. Publishers

3. (Liu, L.) "*Database Management with DBMS Tools*", internally circulated text adopted by all graduate and undergraduate database management classes at Southern Illinois University.

4. (Liu, L.) "*Decision Analysis: Modeling Beliefs And Preferences*," internally circulated text at the University of Kansas and Albany State University.

Articles in Progress (Draft Version Finished):

1. (Liu, L.) "Coarsening complex choices: A coarse utility model for decision making under uncertainty," to be submitted to *Journal of Risk and Uncertainty*.

2. (Liu, L.) "Technology acceptance model: A replicated test using Tetrad," to be submitted to *Decision Sciences Journal*.

3. (Liu, L.) “From structured to object-oriented systems analysis: Conceptual distance and skill transfer,” to be submitted to *Journal of Information Systems and E-Business*.
4. (Liu, L. and Li, C.) “A new method for testing nomological validity and its application the measurement of trust in Internet stores,” to be submitted to *Management Science*.
5. (Liu, L. Li, C. C., and Karau S. J.) “A measurement model of trust in Internet stores,” to be submitted to *MIS Quarterly*.
6. (Liu, L. and Grandon, E. E.) “Revolution or evolution: Conceptual and Cognitive Comparisons of Systems Analysis Techniques,” to be submitted to *Journal of Association for Information Systems*.
7. (Grandon, E. E. and Liu, L.) “Is object-oriented modeling easy to learn and use? A confirmatory factor analysis,” to be submitted to *The Data Base for Advances in Information Systems*.
8. (Liu, L.) "A decomposition method for asymmetric belief networks," to be submitted to *INFORMS Journal on Computing*.
9. (Liu, L.) “Rationality along the way,” to be submitted to *European Journal of Operational Research*.
10. (Liu, L. and A. Ramaprasad) “An e-service framework for electronic medical records,” to be submitted to *International Journal of Electronic Commerce*.

Projects in Progress:

1. (Liu, L.) “Theory-specific concepts of data quality,” to be submitted *Communication of ACM*.
2. (Liu, L., Li, C. C., Srivastava, R.) “Representing audit evidence using linear belief functions,” in progress.
3. (Liu, L. and J. Nelson) “Modeling process performance using linear belief functions,” in progress.
4. (Liu, L.) “Task induced adjustment on self-efficacy: A case in object-oriented analysis,” in progress (data have been collected)
5. (Liu, L.) “Decision Calculus for Continuous Fuzzy Sets,” in progress (Main theorems are proved).
6. (Liu, L. and Dan Zhu) “A Measurement Model of Webqual and the Impact of Webqual on Trust on Internet Stores”, in progress (Data have been analyzed)
7. (Liu, L. and Dan Zhu) “End User’s Acceptance of Application Services Providers,” in progress (data have been analyzed)
8. (Steven J. Karau and Liu, L.) “Customer attitudes toward Internet shopping,” in progress (data have been collected)
9. A. P. Dempster and Liu, L.) “A conceptual foundation of linear belief functions and sweeping operations,” in progress.
10. (Liu, L.) “A method for solving linear systems using linear belief functions,” in progress.

11. (Liu, L.) "Combining empirical models using linear belief functions," in progress.
12. (Liu, L. and T. Calderon) "An Empirical Study of Prioritizing the Goals of Accounting Education Using the Analytical Hierarchical Process", in progress.
13. (Liu, L. and B. Vijayaraman) "Partial ignorance and its impact on acceptance of ERP systems," in progress (data are partially collected)
14. (Liu, L. and K. Dunning) "Partial ignorance and its impact on acceptance of RAD tools," in progress (data are partially collected)

PROFESSIONAL ACTIVITIES

Professional Memberships

- American Association for the Advancement of Science
- Association for Computing Machinery
- IEEE
- Institute for Operations Research and the Management Sciences
- Association for Information Systems
- Decision Sciences Institute

Editor

1. Editorial Board, *International Journal of Applied Management and Technology*, 2004-date.
2. Co-Editor with Dempster, A. P., Yager, R. R., "*Classic Works on Theory of Evidence*," A Volume of Best Papers on the Dempster-Shafer Theory of Belief Functions, Springer-Verlag, New York, NY, 2004.
3. Guest Editor, Special Issue on the Dempster-Shafer Theory of Evidence, *International Journal of Intelligent Systems*, **22(**1), 1-148, 2003.
4. Co-Editor with Borislav Roussev "*Management of the Object-Oriented Development Process*," to be published by Idea Group Publishers, October 2004.

Conference Program Committees

- The Fifth Annual Workshop on HCI Research in MIS, Milwaukee, Wisconsin, December 9-10, 2006.
- 2006 IADIS International Conference on WWW/Internet, Murcia, Spain, October 5-8 2006
- The 2006 IAENG International Workshop on Artificial Intelligence and Applications (IWAIA'06), Hong Kong, June 20-22, 2006.
- The Fourth Annual Workshop on HCI Research in MIS, Las Vegas, NV, December 10-11, 2005.
- 2005 International Research Conference on Innovations in Information Technology (IIT), Dubai, UAE, October 26-29, 2005.
- 2005 Information Resources Management Association (IRMA) International Conference, San Diego, California, May 15-18, 2005
- 2004 Americas Conference on Information Systems (AMCIS)—IT in Health Care Track, New York City, NY, August 5-8, 2004.

- 2004 International Research Conference on Innovations in Information Technology (IIT), Dubai, UAE, October 5-7, 2004.
- The Third Annual Workshop on HCI Research in MIS, Washington, D.C., December 10-11, 2004.

Conference Chair

- Co-Chair: The 2006 IAENG International Workshop on Operations Research (IWOR'06), Hong Kong, June 20-22, 2006
- Track Chair: Invited Cluster on *Belief Functions: Applications and Advances*, 2001 INFORMS Annual Meeting, Miami, FL, November 2001.

Journal Reviewer

- *Computers & Operations Research*
- *Decision Sciences Journal*
- *European Journal of Operational Research*
- *IEEE Sensors Journal*
- *IEEE Transaction on System, Man, and Cybernetics-Part A, B, C*
- *Information Systems Frontier*
- *International Journal of Approximate Reasoning*
- *International Journal of Human-Computer Studies*
- *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*
- *International Journal of Intelligent Systems*
- *Journal of ACM*
- *Journal of End User Computing*
- *Journal of Optimization Theory and Application*
- *Operations Research*
- *Operations Research Letters*

Book Reviewer

- Book, *Modern Systems Analysis and Design*, Prentice-Hall, 2005
- Book, *Management Information Systems*, McGraw-Hill, 2004.
- Book, Introduction to Information Systems, John Wiley and Sons, 2004.
- Book Chapters, Advances in Management Information Systems Monograph: Information Quality, Journal of MIS, 2003.
- Book Chapters, Advances in Management Information Systems Monograph: IT in Workplace, Journal of MIS, 2003.
- Book, Intelligent Systems, World Scientific Publishing, 2001.
- Book, *Object-Oriented Analysis and Design*, Scott/Jones Publishers Inc, 1999.

Session Chairs

- Decision Sciences Institute Annual Meetings
- Institute for Operations Research and Management Sciences Annual Meetings

Proceedings Reviewer

- International Conference on Information Systems (2003, 2005)
- International Conference on Rough Sets and Current Trends in Computing (2004)

- Annual Workshop on HCI Research in MIS (2003, 2004, 2005)
- Hawaii International Conferences on Systems Sciences (2003)
- Decision Sciences Institute Annual Meetings (1994-2004)
- Americas Conference on Information Systems (2002-2004)
- International Conferences on Computing and Information (1994)

Presentations in International Conferences

1. (Liu, L.) "Usability and Efficacy Reactions to Object-Orientation: The Impact of Prior Knowledge," *the Second Annual Workshop on Human-Computer Interaction Research in Management Information Systems*, Seattle, Washington, December 12-13, 2003.
2. (Liu, L., Li, C.) "A Second-Order Model for e-Commerce Trust," *24th Annual McMaster World Congress on the Management of Electronic Business*, Hamilton, Ontario, Canada, January 15-17, 2003.
3. (Liu, L. and Grandon, E. E.) "How performance and self-efficacy influence the ease of use of object-orientation: The moderating effects of prior training," *36th Hawaii International Conference on Systems Sciences*, Big Island, HI, January 7-10, 2003.
4. (Liu, L., Li, C., and Karau, S. J.) "A Measurement Model of Trust in Internet Stores," *2nd International Conference on Electronic Business*, Taipei, Taiwan, December 10-13, 2002.
5. (Liu, L. and Chi L. N.) "Evolutional Data Quality: A theory-Specific View," *Proceedings of the 7th International Conference on Information Quality*, Cambridge, MA, November 8-10 2002.
6. (Liu, L. and Grandon, E. E.) "Revolution or evolution? A cognitive comparison of systems analysis methods," *2002 Decision Sciences Institute Meeting*, San Diego, CA, November 23-26, 2002.
7. (Ma, Q. and Liu, L.) "On acceptance of a web-based medical record system," *2002 Decision Sciences Institute Meeting*, San Diego, CA, November 23-26, 2002.
8. (Roussev, B. and Liu, L.) "Distributed computing using Java: A comparison of two server designs," *2002 Decision Sciences Institute Meeting*, San Diego, CA, November 23-26, 2002.
9. (Grandon, E. E. and Liu, L.) "Is object-oriented modeling easy of learn and use? A confirmatory factor analysis," *Proceedings of the 8th Americas Conference on Information Systems*, 1166-1176, Dallas, TX, August 9-11, 2002.
10. (Grandon, E. E. and Liu, L.) "An Empirical Study of How Structured Modeling Experience Affects the Performance of Applying Object-Oriented Analysis Methodology", *2001 Decision Sciences Institute Meeting*, San Francisco, CA, November 2001.
11. (Liu, L.) "Model Combination Using Belief Functions," 2001 INFORMS Annual Meeting, Miami, FL, November 2001.
12. (Liu, L.) "A Meta-Analysis on Technology Acceptance Model", 2001 INFORMS Annual Meeting, Miami, November 2001
13. (Liu, L. and Shenoy, P. P.) "Coarse Valuations Network", *2000 Decision Sciences Institute Meeting*, Orlando, FL, November 2000.

14. (Liu, L.) A Multi-Trust Model, *Second International Workshop on Technological Challenges of Electronic Commerce*, Beijing, China, June 17-20, 1999

15. (Liu, L.) Conditional Belief Functions, *1998 Decision Sciences Institute Meeting*, Las Vegas, NV, November 21–24, 1998.

16. (Liu, L.) Uncertainty Reasoning Using Gaussian Belief Functions, *4th International Symposium on Artificial Intelligence and Mathematics*, Ft. Lauderdale, Florida, January 3–5, 1996.

17. (Liu, L.) A Decomposition Method for Asymmetric Decision Problems, *1995 Decision Sciences Institute Meeting*, Boston, MA, November 20–22, 1995.

18. (Liu, L.) Propagation of Gaussian Belief Functions, *5th International Workshop on Artificial Intelligence and Statistics*, Ft. Lauderdale, Florida, January 4–7, 1995.

19. (Liu, L.) A Portfolio Selection Model Based on Coarse Utilities, *1994 Decision Sciences Institute Meeting*, Honolulu, Hawaii, November 20–22, 1994.

20. (Liu, L.) Configuration Networks for Asymmetric Decision Problems, *4th Workshop on Normative Systems*, Aalborg, Denmark, May 8–10, 1994.

21. (Liu, L.) A Theory of Coarse Utility, *TIMS/ORSA Joint National Meeting*, Boston, Massachusetts, April 24–27, 1994.

PROFESSIONAL RECOGNITIONS

Invited and Plenary Talks

1. **Invited Talk**, *Taming Complexity for Decision Making: A Theory of Coarse Utility and Its Derivatives*, Mathematical Behavioral Sciences Colloquium. University of California at Irvine, November 18, 2004. (Host: R. Duncan Luce, UCI Distinguished Professor, member of National Academy of Sciences, winner of 2003 National Medal of Science)

2. **Invited Talk**, *A Theory of Linear Belief Functions and Applications to Knowledge Representation and Integration in Business Decision Making*, the Graduate School of Management, University of California at Irvine, November 18, 2004. (Host: L. Robin Keller, Professor of Operations and Decision Technologies)

3. **Invited Talk**: *An Introduction to Linear Belief Functions and Applications to Audit Decisions*, Doctoral Seminar on Accounting and Auditing, School of Business, University of Kansas, April 27, 2004. (Host: Rajendra P. Srivastava, Ernst & Young Distinguished Professor of Accounting and Information Systems)

4. **Plenary Presentation**: A Linear Belief Function Approach to Portfolio Evaluation, *19th Conference on Uncertainty on Artificial Intelligence*, Acapulco, Mexico, August 7-10, 2003.

5. **Invited Talk**: *Information Systems Studies in America*, Graduate Student Council, Huazhong University of Science and Technology, Wuhan, China, June 22, 1999. (Host: Zhiguang Yang, Vice President)

6. **Invited Talk**: *Representing Asymmetric Decision Problems Using Conditional Belief Functions*, Research Seminar on Management Science and Technology, School of Busi-

ness, University of Kansas, November 6, 1998. (Host: Prakash P. Shenoy, Ron G. Harper Distinguished Professor of Artificial Intelligence)

7. **Tutorial**: Local Computation of Gaussian Belief Functions, *6th INFORMS Computer Science Technical Section Conference on* Computer Science and Operations Research: Recent Advances in the Interface, Monterey, California, January 7-9, 1998.

8. **Invited Colloquium**: The Theory of Coarse Utility and Portfolio Analysis, *Decision Sciences Institute Annual Meeting*, Boston, MA, November 20–22, 1995.

Professional Contributions Highlighted

1) I have developed a theory of coarse utility for managerial decision-making and a theory of linear belief functions for knowledge representation in expert systems. Both theories are currently taught to Ph.D. students at University of Illinois at Urbana-Champaign, University of California at Irvine, University of Kansas, University of Delaware, Iowa State University, etc. Four Ph.D. students are currently applying the theory of linear belief functions respectively to financial modeling, auditing, and engineering at University of Kansas and University of Delaware.
2) I have developed so far the best axiomatization to the rank-dependent utility theory, which "greatly improved" (Luce 1995) similar theories by well-known scientists including Amos Tversky, Daniel Kahneman, R. Duncan Luce, and Peter Fishburn.
3) My publications are gradually gaining recognitions. There have been numerous requests to reprint my published articles. I have noticed more than 40 citations of my dissertation work, my 1995 paper in *Journal of Risk and Uncertainty*, my 1996 paper in *International Journal of Approximate Reasoning*, and my 1993 paper in *Journal of Optimization Theory of Applications*. In his recent monograph "Utility of Gains and Losses: Measurement-Theoretical and Experimental Approaches" published in Scientific Psychology Series of Lawrence Erlbaum Associates, Professor R. Duncan Luce from University of California at Irvine allocated a whole section 5.3.3 (pp. 185-187) to introduce one of my results in my dissertation. Department of Computer Science at University of Illinois at Urbana-Champaign selected my theory of linear belief functions as a required reading material for their Advanced Reasoning in AI seminar. Professor Joost Pennings from University of Illinois at Urbana-Champaign has been using my 1995 article published in *Journal of Risk and Uncertainty* as one of required readings for his Ph.D. seminar in Managerial Decision-Making.
4) I am currently serving on the editorial board for *International Journal of Applied Management and Technology*, and as a co-editor for "The Classic Works on Dempster-Shafer Theory of Belief Functions" with Arthur P. Dempster (Harvard University) and Ronald R. Yager (Machine Intelligence Institute)
5) My paper "*How Performance and Self-Efficacy Influence the Ease of Use of Object-Orientation: The Moderating Effect of Prior Training*," has won the Best Paper Nomination at 36th Hawaii International Conference on Systems Sciences, Big Island, Hawaii, January 6 – 9, 2003.
6) My Paper "Usability and Efficacy Reactions to Object-Orientation: The Impact of Prior Knowledge," was selected as one of 7 best papers in *the Second Annual Workshop on Human-Computer Interaction Research in Management Information Systems* to be reviewed for a special issue of *Journal of Management Information Systems*.

SERVICE CONTRIBUTIONS

- At University of Akron, I am currently serving on the *Graduate Curriculum Committee* for College of Business Administration and the Department of Management, and *Graduate Program Assessment* for the Department of Management

- At Southern Illinois University, I served as the *MIS Coordinator* on the Department Steering Committee between May 2000 and May 2001, served on *Senate President's Committee*, and *Faculty Advisor* to the student organization SIU.EDU.

- At Susquehanna University, I served as a member on the University Faculty Affairs Committee and an advisor for faculty search committees in MIS and Computer Science

- At Albany State University, I chaired a college-wide MIS Program Development Committee between 1995 and 1997

BUSINESS EXPERIENCE

Consulting and Business Experiences

05/06-06/06: Eaton Corporation—Requirements Analysis and Modeling (professional training)

09/00-Date: Beck Bus Transportation Corporation—Architect, design, and develop a web-based payroll system

06/00-Date: UXTEND.COM, Carbondale, Illinois—Chief Architect and Developer, web application services for universities and colleges to manage online and onsite classes

08/99-12/00: Trailmobile Corporation, Chicago, Illinois—Consultant and Instructor, Oracle Database Administration, Performance Tuning, and Systems Development

08/99-12/00: Borgsmiller Travel Services—Project Chief Architect and Director, Web Commerce Development and Architecture Design for online resort reservation and airline ticketing

08/97-1998: EMNES Systems, Albany, Georgia—Web Commerce Development and Architecture Design for *Easy Chinese* (a multimedia software product for Chinese Learning)

11/96-1998: ROA Software Labs, Albany, Georgia—Web Commerce Development, Local Area Networking, and Software Design for *MedNotes* (a client/server software product to manage medical records)

05/96-08/97: Albany State University President's Office, Albany, Georgia—Administrative System Reengineering and Migration, Policies and Strategies of Computer and Internet Education for Adults and K-16 Students

11/94-08/96: University of Kansas Energy Analysis and Diagnostic Center, Kansas—Preferential Analysis of Energy Reduction Investment in Industrial Buildings

06/86-07/89: Anlu City Government, Hubei Province, China—Long Range Planning of Energy Consumption and Production

07/87-12/89: Changlin Petrochemical Company, Hunan Province, China—Industrial Energy Efficiency of China, a survey for European Economic Commission; Energy System Analysis and Renovation

IT EXPERIENCES

- *DBMS (Database Management Systems)* — 10 years of teaching and consulting experience with Oracle Database administration, performance tuning, and PL/SQL programming; 9 years of teaching and advising experience with Microsoft Access development; 5 years of teaching experience with Microsoft SQL Server administration.
- *CASE (Computer-Aided Software Engineering)*— 10 years of teaching and consulting experience with Oracle Designer; some teaching experience with Rational Rose Enterprise.
- *RAD (Rapid Applications Development)*— 10 years of teaching, consulting, and development experience with Oracle Forms and Reports; 10 years of teaching, consulting, and development experience with Visual Basic; some teaching and hands-on experience with Microsoft Visual C++ (Foundation Classes), Boland JBuilder, Oracle JDeveloper, and Borland C++ Builder, and 1 year teaching experience with Microsoft Visual C#
- *Programming Languages*— 10 years of teaching, consulting, and development experience in Visual Basic and PL/SQL; 11 years of development experience in C++; extensive knowledge and teaching experience in Java and C#; familiar with COBOL, Prolog, Pascal, and Fortran. Some exposure to ABAP Programming for SAP R/3.
- *Web Applications Development*—10 years of development, consulting, and teaching experience in developing e-commerce applications using HTML, Java Script, CGI, and Active Server Pages. Some teaching and hands-on experience in developing COM components using Visual Basic and Visual C++ ATL and Web services using ASP.Net.
- *Network Administration*—10 years of practical experience in NT and LINUX systems administration including system policy implementation and task automation programming; teaching experience in telecommunications management, data network design, and Cisco switches, Cisco routers, and Cisco IOS; extensive hands-on experience in designing and building local area networks including hardware connection using NICs, hubs, switches, and routers and client/server software configuration; extensive experience in setting up and managing the following Internet Services and Protocols on NT and Linux: DNS, FTP, HTTP, USENET NEWS, POP3, SMTP, and Streaming Media. Some experience in Sun Solaris Systems Administration.

BIOGRAPHIC STATEMENT

Liping Liu is Professor of Management and Information Systems at the University of Akron. He received his Bachelor of Science in Applied Mathematics from Huazhong University of Science and Technology, China, in 1986, Bachelor of Engineering in River Dynamics from Wuhan University, China, 1987, Master of Engineering in Systems Engineering from Huazhong University of Science and Technology, China, in 1991, and Ph.D. in Business from the University of Kansas, USA, in 1995. His research interests are in the areas of Uncertainty Reasoning and Decision Making in Artificial Intelligence, Electronic Business, Systems Analysis and Design, Technology Adoption, and Data Quality. He is known for his theories of coarse utilities and linear belief functions, which have been used for managerial decision-making and knowledge representation, and are currently taught at nation's top Ph.D. programs in Accounting, Computer Science, Economics, Management, and Psychology. His articles have appeared in *Decision Support Systems*, *European Journal of Operational Research*, *IEEE Transactions on System, Man, and Cybernetics*, *International Journal of Approximate Reasoning*, *Information and Management*, *Journal of Risk and Uncertainty*, and others. He has served as a guest editor for *International Journal of Intelligent Systems*, a co-editor for *Classic Works on Dempster-Shafer Theory of Belief Functions*, and on the editorial board for *International Journal of Applied Management and Technology*. He served on the program committee or as a track chair for INFORMS, AMCIS, IRMA, IIT, etc. He has strong practical and teaching interests in e-business systems design, development, and integration using advanced DBMS, CASE, and RAD tools. He has won two teaching awards. His recent consulting experience includes designing and developing a patient record management system, a payroll system, a course management system, and an e-travel agent, and providing corporate trainings on Oracle database administration, Oracle applications development, and object-oriented requirements analysis and modeling for large corporations.