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EDUCATION

1986	Ph.D. in Computer & Information Systems University of Rochester, U.S.A.
1983	M.S. in Computer & Information Systems University of Rochester, U.S.A.
1981	B.S. in Management Science National Chiao Tung University, Taiwan, R.O.C.

RESEARCH & TEACHING INTERESTS

Predictive and prescriptive analytics, machine learning, deep learning, data mining, big data analytics (sustainable learning at scale), knowledge management for social media, ebusiness, healthcare, strategy/management, fintech, cybersecurity, logistics, service, manufacturing, learning, and government applications. Data privacy and protection. Data driven decision optimization and support.

WORK EXPERIENCES, ACADEMIA

July 2003 – present	Director, Global Knowledge Management Center, U of Utah
November 2002 – present	Presidential Professor, U. of Utah
July 2002 – present	Emma Eccles Jones Presidential Chair and Professor of Business University of Utah
July 2008 – present	Adjunct Faculty (courtesy appointment), School of Computing, College of Engineering, U of Utah
May 2001 – 2003	Consultant on data base, data warehouse, data mining and web-based knowledge management technologies for bio-informatics, Arizona Cancer Center, U. of Arizona
April 1999 – June 2002	McCoy-Rogers Professor & Director of Enterprise and Business Intelligence Systems (e.bis) Lab University of Arizona
Aug. 1998 – June 2002	Professor of MIS, University of Arizona
Aug. 1997 – June 2002	Department Head, Dept. of MIS, University of Arizona
Aug. 1992 – Aug. 1998	Associate Professor of MIS (on leave, Jul. 1995 – Aug. 1997) University of Arizona
Nov. 1986 - Aug. 1992	Assistant Professor of MIS, University of Arizona
Aug. 1985 - Nov. 1986	Lecturer of MIS, University of Arizona
Jul. 1995 – Aug. 1997	Associate Professor of Information & Systems Management

Hong Kong University of Science and Technology
Clear Water Bay, Kowloon, Hong Kong

INDUSTRY EXPERIENCES

April 2018 – present	External Board Member, Lease Corporation of America Bank of Utah
Dec. 2006 – present	Founder of Aculus LLC, a business intelligence and data driven innovation and service provider for Internet businesses, healthcare and transportation sectors.
Oct. 2000 – June 2002	Consultant on Knowledge Management and Business Process Re-engineering, Signal Corporation.
Jan, 2001 – Dec. 2002	Technology Advisor on Pain Diagnosis Software, ProActive Physical Therapy.

PUBLICATIONS

Journals

1. Yang Wang, Vandana Ramachandran O. R. Liu Sheng. “Do Fit Opinions Matter? The Impact of Fit Context on Online Product Returns.” *Information Systems Research*, Vol 32, No. 2, (Forthcoming).
2. Yuanyang Liu, Gautam Pant and O. R. Liu Sheng. “Predicting Labor Market Competition: Leveraging Interfirm Network and Employee Skills.” *Information Systems Research*, Vol 31, No. 4, pp. 1443 – 1466 (December 2020).
3. Morid, Mohammad Amin, Olivia R. Liu Sheng, Kensaku Kawamoto, and Samir Abdelrahman. "Learning hidden patterns from patient multivariate time series data using convolutional neural networks: A case study of healthcare cost prediction." *Journal of Biomedical Informatics* 111 (2020): 103565.
4. Morid, Mohammad Amin, Olivia R. Liu Sheng, Guilherme Del Fiol, Julio C. Facelli, Bruce E. Bray, and Samir Abdelrahman. "Temporal Pattern Detection to Predict Adverse Events in Critical Care: Case Study with Acute Kidney Injury." *JMIR medical informatics* 8, no. 3 (2020): e14272.
5. Mohammad Amin Morid, Olivia R. Liu Sheng, Kensaku Kawamoto, Travis Ault, Josette Dorius, Samir Abdelrahman (2019) “Healthcare Cost Prediction: Leveraging Fine-grain Temporal Patterns,” *Journal of Biomedical Informatics*, Volume 91, March 2019, 103113.
6. Zhepeng Li, Xiao Fang, Olivia R. Liu Sheng. (2018) “A Survey of Link Recommendation for Online Social Networks Methods, Theoretical Foundations, and Future Research Directions.” *ACM Transactions on Management Information Systems*, Volume 9 Issue 1, February 2018, Article No. 1.
7. Zhepeng Li, Xiao Fang, Xue Bai, Olivia R. Liu Sheng (2017) “Utility-Based Link Recommendation for Online Social Networks.” *Management Science* 63(6):1938-1952.
8. Gautam Pant and O. R. Liu Sheng. “Predicting Competitors Using Online Isomorphism.” *Information Systems Research*, Vol 26, No. 1, pp. 188 – 120 (Feb 2015).
9. Xiao Fang, Olivia R. Liu Sheng and Paulo Goes. “When Is The Right Time To Refresh Knowledge Discovered From Data.” *Operations Research*, Vol. 61, No. 2, pp. 32 – 44 (Feb 2013).
10. Xiao Fang, P. J. Hu, Chau, M. Hu, H., Z. Yang, and O. R. Liu Sheng. “A Data Driven Approach to Measure Website Navigability.” *Journal of Management Information Systems*, Vol. 29, No. 2, pp. 173 – 212 (Oct. 2012).
11. Zhongming Ma, Olivia R. Liu Sheng, Gautam Pant and Alicia Iriberrí. “Can Visible Cues in Search Results Indicate Vendors' Reliability?” *Decision Support System*, 52(3): 768-775 (2012).
12. Zhongming Ma, Gautam Pant and Olivia R. Liu Sheng. “Mining Competitor Relationships from Online News: A Network-based Approach,” *Journal of Electronic Commerce Research and Applications*, (10), pp. 418-427, 2011.
13. Zhongming Ma, Olivia R. Liu Sheng and Gautam Pant. “Discovering Company Revenue Relations from News.” *Decision Support System*, 47(4), pp. 408-414, 2009.

14. X. Ding, P. J. Hu, and Olivia R. Liu Sheng, “e-SELFQUAL: A Scale for Measuring e-Service Quality in Self Services,” *Journal of Business Research*, Vol.64, No.5, May 2011, pp. 508-515.
15. L. Lin, P. J. Hu, Olivia R. Liu Sheng, and J. Lee, “Is Stickiness Profitable for Electronic Retailers? An Analysis of Within-Session Visiting Behaviors,” *Communications of the ACM*, Vol.53, No.3, March 2010, pp. 132-136.
16. Namsik Chang and Olivia R. Liu Sheng, “Decision-tree-based Knowledge Discovery: Single-decision-tree versus multi-decision-tree Induction Techniques,” *INFORMS Journal on Computing*, Vol. 20, No.1, pp. 45-54, March 2008.
17. X. Fang, Olivia R. Liu Sheng and Michael Chau. “ServiceFinder: A Method towards Enhancing E-service Portals.” *ACM Transactions on Information Systems*, Vol. 25, No. 4, Articles 17, Oct. 2007.
18. Zhongming Ma, Gautam Pant and Olivia R. Liu Sheng. “Interest-Based Personalized Search,” *ACM Transactions on Information Systems*, Vol 25, Issue 2, Article 5, February 2007.
19. J. Zhang, X. Fang, and Olivia R. Liu Sheng. “Online Consumer Search Depth: Theory and New Findings.” *Journal of Management Information Systems*, 23 (3) pp 71-95, 2007.
20. Michael Chau, Xiao Fang and Olivia R. Liu Sheng. “What Are People Searching On Government Websites?” *Communications of ACM*, Vol. 50, No. 4, April 2007, pp. 87-92.
21. X. Fang, Olivia R. Liu Sheng, W. Gao and B. Iyer. “A Data-Mining-Based Prefetching Approach to Caching For Network Storage Systems,” invited paper, *INFORMS Journal on Computing*, 18 (2), pp 267-282, 2006.
22. Xiaoyun Sun, Leon Zhao, Jay Nunamaker and Olivia R. Liu Sheng. “Formulating the Data Flow Perspective for Business Process Management,” *Information Systems Research*, Vol. 17, No. 4, December 2006, pp. 374-391.
23. Lin Lin, Paul Hu and Olivia R. Liu Sheng. “A Decision Support System for Lower Back Pain: Uncertainty Management and Clinical Evaluations,” *Decision Support System*, Vol.42, No.2, 2006, pp. 1152-1169.
24. P. J. Hu, C. Wei, and Olivia R. Liu Sheng, “Evaluating an Intelligent Patient Image Pre-fetching System: An Experimental Study,” *Decision Support System*, Vol.42, No.3, 2006, pp. 1730-1746.
25. Michael Chau, Xiao Fang and Olivia R. Liu Sheng. “Analysis of the Query Logs of a Website Search Engine.” *JASIST*, 56 (13), pp1363 – 1376, 2005.
26. C. Wei, P. J. Hu, Olivia R. Liu Sheng, and Y.H. Lee, “Intelligent Image Pre-fetching for Supporting Radiologists’ Primary Reading: A Decision-Rule Inductive Learning Approach,” *IEEE Transactions on Systems, Man, and Cybernetics Part A: Systems and Humans*, Vol.35, No.2, March 2005, pp.1-14.
27. X. Fang and Olivia R. Liu Sheng. “LinkSelector: A Web Mining Approach to Hyperlink Selection for Web Portals.” *ACM Transactions on Internet Technology, special issue on Web mining*, Vol. 4, No. 2, pp. pp. 209-237, 2004.
28. P. J. Hu, P. Chau, Olivia R. Liu Sheng. “Adoption of Telemedicine Technology by Healthcare Organizations: An Exploratory Study.” *Journal of Organizational Computing and Electronic Commerce*, Vol. 12, No.3, 2002, pp.179-221.
29. C. Wei, Olivia R. Liu Sheng and P. J. Hu. “Fuzzy Statistics Estimation in Supporting Multidatabase Query Optimization.” *Electronic Commerce Research*, summer 2002.
30. C. Wei, P. Hu and Olivia R. Liu Sheng. “A Knowledge-based System for Patient Image Pre-fetching in Heterogeneous Database Environments: Modeling, Design and Evaluation,” *IEEE Transactions on Information Technology on Biomedicine*, Vol. 5, No. 1, pp. 33-45, March 2001.
31. Olivia R. Liu Sheng, C. Wei, P. J. Hu, and N. Chang “Automated Learning of Patient Image Retrieval Knowledge: Neural Networks versus Inductive Decision Tree.” *Decision Support Systems*, Vol. 30, No. 2, pp. 105-124, Dec. 2000.
32. Olivia R. Liu Sheng. “Decision Support for Healthcare in a New Information Age.” *Decision Support Systems*, Vol. 30, No. 2, pp. 101-103, Dec. 2000.
33. K. Higa and Olivia R. Liu Sheng, B. Shin and A. J. Figueredo. “A Study of Teleworkers’ Media Use and Their Perception on media and Work Productivity.” *IEEE Transactions on Engineering Management*, Vol. 47, No. 2, pp. 163-173, May 2000.

34. B. Shin, K. Higa and O. R. Liu Sheng. "Telework: Existing Research and Future Directions." *Journal of Organizational Computing and Electronic Commerce*, Vol. 10, No. 2, 85-101,2000.
35. B. Shin, K. Higa, Olivia R. Liu Sheng and T. Ide. "Analyzing the Media Usage Behavior of Telework Groups: A Contingency Approach." *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 29, No. 1, pp. 127-139, February 1999.
36. Olivia R. Liu Sheng, P. J. Hu, C. Wei and P. C. Ma. "Organizational Management of Telemedicine Technology: Conquering Time and Space Boundaries in Healthcare Services." *IEEE Transactions on Engineering Management*, pp. 265 – 278 (1999).
37. Olivia R. Liu Sheng, P. J. Hu and C. Wei. "A Knowledge-based Patient Image Pre-fetching System: Design, Evaluation, and Management." *Topic in Health Information Management*, Vol. 20, No. 1, pp. 42 – 58 (1998).
38. P. J. Hu, Olivia R. Liu Sheng, P. Y. Chau, and K. Y. Tam, "Examining Technology Acceptance Model Using Physician Acceptance of Telemedicine Technology," *Journal of Management Information Systems*, Vol.16, No.2, pp.91-112, fall 1999.
39. Olivia R. Liu Sheng, P. J. Hu, C. Wei, K. Higa and G. Au. "Adoption and Diffusion of Telemedicine Technology in Health Care Organizations: A comparative Case Study in Hong Kong." *Journal of Organizational Computing and Electronic Commerce*, Vol. 8, No. 4, pp. 247-275 (1998).
40. Olivia R. Liu Sheng, P. J. Hu, P. Chau, N. Hejelm, K. Y. Tam, C. Wei and J. Tse. "Investigating Physicians' Acceptance of Telemedicine Technology: A Survey Study." *Journal of Telemedicine and Telecare, Supplementary issue on TeleMed 97*, pp. 100-102, 1997.
41. Bongsik Shin, Kunihiro Higa, Olivia R. Liu Sheng, and Toshihiro Ide. "Analyzing the Media Usage Behavior of Telework Groups: A Contingency Approach." *IEEE Transactions on Systems, Man, and Cybernetics*, Vo. 29, No. 1, pp. 127-139 (1999).
42. Olivia R. Liu Sheng, C. Wei and P. J. Hu. "Neural NET Learning for Intelligent Patient Image Retrieval." *IEEE Intelligent Systems (formerly IEEE Expert)*, Vol. 13, No. 1, pp.49-57 (Jan/Feb 1998).
43. Olivia R. Liu Sheng, P. J. Hu, G. Au, K. Higa and C. Wei. "Urban Teleradiology in Hong Kong: Lessons and Implications." *Journal of Telemedicine and Telecare*, Vol. 3, No. 1, 1997, pp. 71 - 77.
44. R. Anderson, M. Dror and Olivia R. Liu Sheng. "Interactive Multiobjective Linear Programming: The Issue of Consistency." *Foundation of Computing and Decision Sciences*, Vol. 20, 1995, pp. 255 - 274.
45. C. S. Amaravadi, J. George, Olivia R. Liu Sheng and J. Nunamaker. "The Adequacy of Office Models." *Advances in Computers*, Vol. 40, 1995, pp. 182 - 253.
46. A. Toshimitsu, Olivia R. Liu Sheng and P. J. Hu. "Teaching Radiological Image Reading: A Support System." *Intelligent Tutoring Media*, Vol. 5, No.3/4, Dec. 1994, pp. 121 - 130. Reprinted as "Teaching Radiological Image Reading" in *Medical Multimedia*, Ed. Claude Ghaoui and Roy Rada, 1995, pp. 3 - 25.
47. Olivia R. Liu Sheng, Chihping Wei and Paul Jen-Hwa Hu. "Engineering Patient Image Retrieval Knowledge." *Heuristics: The Journal of Knowledge Engineering and Technology*, Vol. 7, No. 2, Summer/Fall 1994, pp. 44 - 60.
48. K. Higa, M. W. Aiken and Olivia R. Liu Sheng. "Structured Design of a Knowledge-based Message Dissemination System." *International Journal of Software Engineering and Knowledge Engineering*, Vol. 4, No. 1, March 1994, pp. 61 - 80.
49. J. Morrison, C. M. Morrison and Olivia R. Liu Sheng. "Beyond the Database Schema: Adding More Knowledge to Integrated Knowledge Base/Database Systems." *Information and Decision Technologies*, Vol. 1, No. 1, March 1994, pp. 55 - 68.
50. B. Berra, F. Golshani, R. Mehetro and Olivia R. Liu Sheng. "Multimedia Information Systems." *IEEE Transactions on Knowledge and Data Engineering*, Vol. 5, No. 4, Aug. 1993, pp. 545 - 550.
51. K. Higa, J. Morrison, C. M. Morrison and Olivia R. Liu Sheng. "An Object-Oriented Methodology for Knowledge Base/Database Coupling." *Communications of ACM*, Vol. 35, No. 6, June 1992, pp.

- 99 - 113. Reprinted in *Parallel Architectures for Data/Knowledge-Based Systems*, edited by Les L. Miller, Simin H. Pakzad, and Ali R. Hurson, IEEE press, 1995.
52. C. S. Amaravadi, Olivia R. Liu Sheng, J. George and J. F. Nunamaker. "AEI: A Knowledge-Based Office System," *Journal of Management Information Systems*, Vol. 9, No. 1, Summer 1992, pp. 133 - 163.
 53. M. Morrison, J. Morrison, K. Higa and Olivia R. Liu Sheng. "Prototyping in a High-Level Environment: Experiences and Observations," *Journal of Systems and Software*, Vol. 19, No. 2, Oct. 1992, pp. 147 - 152.
 54. Olivia R. Liu Sheng. "Optimization of File Migration Policies in Distributed Computer Systems." *Computers and Operations Research*, Vol. 19, No. 5, 1992, pp. 335 - 351.
 55. J. Morrison and Olivia R. Liu Sheng. "Communication Technologies and Collaboration Systems: Common Domains, Problems and Solutions," *Information and Management*, Vol. 23, 1992, pp. 93 - 112.
 56. H. Lee and Olivia R. Liu Sheng. "A Multiple Criteria Model for the Allocation of Data Files in a Distributed Information System." *Computers and Operations Research*, 1992.
 57. Olivia R. Liu Sheng and H. Lee. "Data Allocation in Networks: LAN versus MAN versus WAN." *Annals of Operations Research*, Vol. 36, 1992, pp. 125 - 150.
 58. M. Aiken and Olivia R. Liu Sheng. "Artificial Intelligence Based System Simulation in the Design of a GDSS Idea Generation Tool." *Information and Management*, Vol. 21, Nov/Dec, 1991, pp. 279 - 289.
 59. Olivia R. Liu Sheng. "Analysis of Optimal File Migration Policies in Distributed Computer Systems." *Management Science*, Vol. 38, No. 4, April 1992, pp. 459 - 482.
 60. Olivia R. Liu Sheng, C. Amaravadi, M. Aiken and J. Nunamaker. "IOIS: A Knowledge-based Approach to Integrated Office Information Systems." *Decision Support Systems*, Vol. 8, 1992, pp. 269 - 286.
 61. M. Aiken, Olivia R. Liu Sheng and D. Vogel. "Integrating Expert Systems with Group Decision Support Systems." *ACM Trans. on Information Systems*, Vol. 9, No. 1, January 1991, pp. 75 - 95.
 62. Olivia R. Liu Sheng and K. Higa. "An Analytical and Empirical Comparison of End-user Logical Database Design Methods." *Journal of Database Administration*, Vol. 1, No. 2, Fall 1990, pp. 1 - 15.
 63. Olivia R. Liu Sheng. "Performance Analysis of Distributed Database Processing in Bus Local Networks." *Information and Operations Research (INFOR)*, Vol. 28, No. 3, Aug. 1990, pp. 201 - 220.
 64. B. Gavish and Olivia R. Liu Sheng. "Dynamic File Migration in Distributed Computer Systems." *Communications of ACM*, Vol. 32, No. 2, Feb., 1990, pp. 177 - 189.
 65. K. Higa and Olivia R. Liu Sheng. "An Object-oriented Methodology for Database/Knowledge-base Coupling: An Implementation of the Structured Entity Model in Nexpert System." *Data Base*, Vol. 20, No. 1, Spring, 1989, pp. 24 - 29.
 66. Olivia R. Liu Sheng, L. Motiwalla, J. Nunamaker and D. Vogel. "A Framework to Support Managerial Activities Using Office Information Systems." *Journal of Management Information Systems*, Vol. 6, No. 3, 1989, pp. 45 - 63.
 67. U. Sumita and Olivia R. Liu Sheng. "Analysis of Query Processing in Distributed Database Systems with Fully Replicated Files." *International Journal of Performance Evaluation*, Vol. 8, 1988, pp. 223 - 238.

Papers Under Review, Revision or Preparation for Journal Submission

1. Xiao Fang, Kexin Yin and Olivia R. Liu Sheng. "Diversity Preference-Aware Link Recommendation for Online Social Networks." Under review at *Information Systems Research*.
2. Xiaohang Zhao, Xiao Fang, Jing He, and Olivia R. Liu Sheng. "A Deep Strategy for Text-Based Industry Classification." Under revision for reject and resubmit to *Management Science*. To be submitted by April 2021.

3. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Employee Turnover through Network Embeddedness.” To be submitted to *MIS Quarterly*, April 2021.
4. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “The Effect of Skilled Immigrants and IT Skills on Employee Retention.” To be submitted to *Management Science*, April 2021.
5. Qihang Lin, Kang Zhao, Xi Wang and Olivia R. Liu Sheng. “Reciprocal Recommendations by Binary Matrix Completions with Data-Dependent Regularization.” Under revision for reject and resubmit at *Information Systems Research*. To be submitted by April 2021.
6. Wang, Yang, Olivia R. Liu Sheng and Joe Dunbar. “Return or Not: Leverage The Predictive Power of Online Product Fit Opinions.” To be submitted to *MIS Quarterly*, *POMS*, or *MSOM*.
7. Morid, Amin, Olivia R. Liu Sheng and Joe Dunbar. “The Differential Impact of Temporal Patterns for Acute Kidney Injury Prediction in Intensive Care.” To be submitted to *MIS Quarterly*, *Journal of MIS*, *POMS* or *MSOM*.
8. Joseph Dunbar, Olivia R. Liu Sheng and Paul Hu. “Intraday and Daily Cryptocurrency Price Predictions: Leveraging Multivariate Temporal Relationships via Deep Learning.” To be submitted to *MIS Quarterly* or *Information Systems Research*.
9. Morid, Amin, Olivia R. Liu Sheng and Joe Dunbar. “A Survey of Deep Learning for Mining Time Series Patient Data.” To be submitted to *ACM Transactions on MIS*.
10. Joseph Dunbar and Olivia R. Liu Sheng. “Information Theoretic Ising Graph Convolutional Networks for Multivariate Time Series Forecasting.” To be submitted to *Management Science*.
11. Yu Zhu, Xiao Liu and Olivia R. Liu Sheng. “Read Like an Expert: A Deep Learning Approach to Decomposing Earnings Conference Calls.” To be submitted to *Management Science*.

Refereed Conference Proceedings

1. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Employee Turnover through Network Embeddedness.” *Workshop on Information Systems and Technology*, online, Received the **Best Paper Runner-Up Award**, December 16-18, 2020.
2. Joseph Dunbar and Olivia R. Liu Sheng. “Information Theoretic Ising Graph Convolutional Networks for Multivariate Time Series Forecasting.” **Best student paper nominee**, *The 4th INFORMS Workshop on Data Science*, online, November 7, 2020.
3. Yu Zhu, Xiao Liu and Olivia R. Liu Sheng. “Peek into the Future: Understanding Corporate Narrative Information Disclosure with Multi-task Learning.” Short presentation, *The 4th INFORMS Workshop on Data Science*, online, November 7, 2020.
4. Xiaohang Zhao, Xiao Fang, Jing He, and Olivia R. Liu Sheng. “A Deep Learning Approach to Industry Classification.” *The 2019 Conference on Artificial Intelligence, Machine Learning and Business Analytics*, December 12-13, 2019, Temple University.
5. Xiaohang Zhao, Xiao Fang, Jing He, and Olivia R. Liu Sheng. “A Deep Strategy for Text-Based Industry Classification.” Received the **Best Paper Award** at *3rd INFORMS Workshop on Data Science*, October 19, 2019, Seattle.
6. Joseph Dunbar and Olivia R. Liu Sheng. “Intraday and Daily Cryptocurrency Price Predictions: Leveraging Multivariate Temporal Relationships via Deep Learning.” *The 3rd INFORMS Workshop on Data Science*, October 19, 2019, Seattle.
7. Xiao Fang, Xiaohang Zhao, Roger Silvers, Jing He, and Olivia R. Liu Sheng. “A Deep Strategy for Text-Based Industry Classification.” *The 14th Winter Conference on Business Analytics*, March 7-9, 2019, Snowbird, Utah.
8. Yu Zhu, Xiao Liu and Olivia R. Liu Sheng. “Read Like an Expert: A Deep Learning Approach to Decomposing Earnings Conference Calls.” *The 15th Winter Conference on Business Analytics*, March 12-14, 2019, Snowbird, Utah.
9. Morid, Amin, Olivia R. Liu Sheng, and Brian Sheng. “Temporal pattern recognition for acute kidney injury prediction.” *Conference on Health IT and Analytics (CHITA)*, November 3-4, 2017.

10. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Employee Turnover.” *Conference on Information Systems and Technology*, Houston, October 21-22, 2017.
11. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Inter-Firm Human Capital Flow.” Inaugural INFORMS Workshop on Data Science, October 21, 2017
12. Morid, Amin, Olivia R. Liu Sheng and Samir Abdelrahman. “Leveraging Similarity and Change Points for Patient Time Series Classification: The Case of Early ICU Mortality Prediction.” Inaugural INFORMS Workshop on Data Science, October 21, 2017.
13. Wang, Yang, Vandana Ramachandran, Olivia R. Liu Sheng and William Moore. “Online Product Fit Opinions and Returns.” Symposium on Statistical Challenges in Ecommerce Research, Vietnam, June 26-28, 2017.
14. Yang Wang, Ramachandran, Vandana and Olivia R. Liu Sheng. “The Causal Impact of Fit Valence and Fit Reference on Product Returns.” *International Conference on Information Systems*, Dec. 2016.
15. Yang Wang, Ramachandran, Vandana and Olivia R. Liu Sheng. “The Causal Impact of Fit Valence and Fit Reference on Product Returns.” *Conference on Information Systems and Technology*, November 12-13, 2016.
16. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Human Capital Flows With LinkedIn Profiles,” *Conference on Information Systems and Technology*, November 12-13, 2016.
17. Morid, Amin, Olivia R. Liu Sheng and Samir Abdelrahman. “Healthcare Predictive Analytics for Patient Time Series with Non-ignorable Missingness: The Case of Early ICU Mortality Prediction.” **Best Paper**, Inform Workshop on Data Mining and Decision Analytics, November 12, 2016.
18. Morid, Amin, Olivia R. Liu Sheng and Samir Abdelrahman. “Healthcare Predictive Analytics for Patient Time Series with Non-ignorable Missingness: The Case of Early ICU Mortality Prediction.” Workshop on Health Information Technology and Economics, Oct. 21-22, 2016.
19. Yuanyang Liu, Gautam Pant and Olivia R. Liu Sheng. “Predicting Human Capital Movement With LinkedIn Profiles,” *Workshop on Information Systems and Economics*, 2015.
20. Ramachandran, Vandana, Yang Wang and Olivia R. Liu Sheng. “Does Fit Matter: The Differential Impact of Quality and Fit on Product Returns.” *CIST* 2015.
21. Morid, Amin and Olivia R. Liu Sheng. “Unusual Drug Review Detection.” Poster paper, *WITS* 2015.
22. Chong Oh and Olivia R. Liu Sheng. “Investigating Predictive Power of Stock Micro Blog Sentiment in Forecasting Future Stock Price Directional Movement.” *Proceedings of 32nd International Conference on Information Systems*, Shanghai, China, Dec. 5-8, 2011 (Nominated for best paper).
23. H. Hu and Olivia R. Liu Sheng. “Keyword Characteristics and Search Marketing Performance Analysis.” *Proceedings of 31st International Conference on Information Systems*, St. Louis, U.S.A. paper 223, 2010.
24. G. Pant and Olivia R. Liu Sheng. “Avoid the Blind Spot: Competitor Mining,” *Proceedings of the 30th International Conference on Information Systems* Phoenix, U.S.A. 2009.
25. W. Gao, Z. Yang, and Olivia R. Liu Sheng. “An Interest Support Based Subspace Clustering Approach to Predicting Repurchases.” *Proceedings of Workshop on Information Technology Systems*, Montreal, Canada, December 2007.
26. Z. Ma, G. Pant and Olivia R. Liu Sheng. “The Inorganic Side of Web Search.” *Proceedings the 6th Workshop on e-Business (WeB)*, Montreal, Canada, December 2007.
27. X. Fang, M. Chau, P. Hu, Z. Yang, and Olivia R. Liu Sheng. 2006. “Web-Mining-Based Objective Metrics for Measuring Website Navigability.” *Proceedings of the 27th International Conference on Information Systems (ICIS 2006): Design Science Track*, Milwaukee, Wisconsin.
28. Ma, Z., Olivia R. Liu Sheng, and G. Pant. “Using Social Network Analysis to Automatically Discover Competitor Relationships from Business News,” *Proceedings the 5th Workshop on e-Business (WeB)*, Milwaukee, Wisconsin, USA, December 2006

29. X. Fang, and Olivia R. Liu Sheng. 2005. "Designing a Better Web Portal for Digital Government: a Web-mining Based Approach." *Proceedings of the 2005 National Conference on Digital Government Research*, DG.O 2005, Atlanta, Georgia.
30. Leon Chen, Olivia R. Liu Sheng, D. Gorham and J. Watanabe. 2005. "A Real Option Approach To Evaluating Digital Government Investment," *Proceedings of the 2005 National Conference on Digital Government Research*, DG.O 2005, Atlanta, Georgia.
31. Zhongming Ma, Olivia R. Liu Sheng and Gautam Pant. "Evaluation of Ontology-based User Interests Modeling" *Proceedings of Workshop on eBusiness (WeB)*, December 2005.
32. Zhuo Yang, Paul Hu, and Olivia R. Liu Sheng. "Investigating Online Purchase Behavior: A Household Perspective." *Proceedings of Workshop on eBusiness (WeB)*, December 2005.
33. Olivia R. Liu Sheng and Wei Gao. "Mining Characteristic Patterns to Identify Users." *Proceedings of Workshop on Information Technology Systems*, Washington D.C., December 2004.
34. L. Lin, J. Lee, P. J. Hu, and Olivia R. Liu Sheng, "Investigating Online Customer Lifetime and Its Effects on Purchase Decision and Firm Profit Gain," *Proceedings of the WEB-2004*, December 2004, Washington DC.
35. Zhongming Ma and Olivia R. Liu Sheng. "Clustering Web Sessions Using Extended General Pages." *Proceedings of Pacific Asia Conference on Information System*, Shanghai, PRC, July 2004.
36. Wei Gao and Olivia R. Liu Sheng. "To Count or Not to Count: Count Association Rule Mining." *Proceedings of Workshop on Information Technology Systems*, Seattle, December 2003.
37. A. Sherwood, P. J. Hu, D. Cui, and Olivia R. Liu Sheng, "A Case Study on OneStop Business Registration in Utah: Lessons for Cross-Agency Digital Government Projects and Programs," the Cross Boundary Governance Workshop, *National Electronic Coordinating Council*, November 17-19, 2003, Raleigh NC.
38. Lin Lin, Olivia R. Liu Sheng, Paul J.H. Hu, "Adaptive Medical Knowledge Management: An Integrated Rule-Based and Bayesian Network Approach." *Proceedings of Workshop on Information Technology Systems*, Barcelona, Spain, December 2002.
39. Xiao Fang, Olivia R. Liu Sheng, W. Gao, B. Iyer. "Netshark: A Caching Based Geographically Distributed Network Storage System." *Proceedings of Workshop on Information Technology Systems*, New Orleans, Dec. 2001. **(Nominated for the Best Paper Award)**
40. Lin Lin, Olivia R. Liu Sheng. "Incremental Neural Net Learning for Intelligent Patient Image Retrieval." *Proceedings of Workshop on Information Technology Systems*, Brisbane, Australia, pp. 163-168, Dec. 2000.
41. Xiao Fang and Olivia R. Liu Sheng. "A Monitoring Algorithm for Incremental Association Rule Mining." *Proceedings of Workshop on Information Technology Systems*, Brisbane, Australia, pp. 169-174, Dec. 2000.
42. Zeng, D., Liu Sheng, Olivia R., and Wilson, B. (2000). "The Design and Experimentation of Agent-based Procurement Systems." *Proceedings of the Third International Conference on Telecommunications and Electronic Commerce*, Dallas, TX, Nov. 2000.
43. C. Wei, P. Hu, Olivia R. Liu Sheng, and Y. Lee. "Inductive Learning Approach to Intelligent Patient Image Pre-fetching: Extension and Evaluation of CN2 Algorithm." *Proceedings of HICSS, 2000* **(Best paper award)**.
44. P. Hu, P. Chau, Olivia R. Liu Sheng. "Investigation of Factors Affecting Organization's Adoption of Telemedicine Technology." *Proceedings of HICSS, 1999*.
45. B. Shin, Olivia R. Liu Sheng, K. Higa and A. J. Figueredo. "A Study of Teleworkers' Media Use." *Proceedings of HICSS, 1998*.
46. Z. Zhou and Olivia R. Liu Sheng. "Query Optimization in Large Scale Distributed Databases." *Proceedings of the 2nd INFORMS Conference on Information Systems and Technology* (May 1997) San Diego, U.S.A.
47. P. J. Hu, Olivia R. Liu Sheng and C. Wei. "Analysis of Telemedicine's Impact on Organizational Competitiveness and Consumers' Value Adding." *Proceedings of 1997 Pacific Asia Conference on Information Systems*, Brisbane, Queensland, Australia, pp. 441 - 449.

48. Z. Zhou and Olivia R. Liu Sheng. "Vertical Data Fragmentation and Fragment Allocation in Distributed Database Systems." *Proceedings of 1997 Pacific Asia Conference on Information Systems*, Brisbane, Queensland, Australia, pp. 839 - 850.
49. B. Shin, K. Higa, and Olivia R. Liu Sheng. "An Adoption Model of Telework for Organizations." *Proceedings of the 30th Hawaii International Conference on System Sciences (HICSS-30)*, Jan. 7-10, 1997, 110 - 119.
50. K. Higa, Olivia R. Liu Sheng, P. J. Hu, and G. Au. "Organizational Adoption and Diffusion of Technological Innovations: A Comparative Case Study on Telemedicine in Hong Kong." *Proceedings of the 30th Hawaii International Conference on System Science (HICSS-30)*, Jan. 7-10, 1997, pp. 146 - 155.
51. B. Shin, K. Higa, and Olivia R. Liu Sheng. "Telework: Organizational Innovation." *Proceedings of Korean Federation of Scientists and Engineers International Technical Conference*, Seoul, Korea, 1996, pp.1248-1256.
52. P. J. Hu, Olivia R. Liu Sheng, and C. Wei. "Adoption and Diffusion of Telemedicine and Its Impacts on Health Care Systems and Competition." *Proceedings of the First Asia-Pacific Decision Sciences Institute Conference*, June 21-22, 1996, Hong Kong, pp.1067-1076.
53. B. Shin, K. Higa, and Olivia R. Liu Sheng. "Modeling Intra-Organizational Adoption and Diffusion of Telework." *Proceedings of the America's Conference on Information Systems (AIS)*, Phoenix, 1996, pp.359-361.
54. P. J. Hu, Olivia R. Liu Sheng, and C. Wei. "A Framework for Investigating Impacts of Telemedicine." *Proceedings of the Second AIS Americas Conference 1996*, August 16-18, 1996, Phoenix, pp.356-358.
55. Olivia R. Liu Sheng and Namsik Chang. "Automated Decision Rule Discovery from Domains with Joint Decision Outcomes: A Decision Tree Induction Approach." *Proceedings of the Third International Conference of the International Society for Decision Support Systems*, Hong Kong, June 22-23, 1995, pp. 259 - 268.
56. Olivia R. Liu Sheng, T. Han, C. Wei and P. J. Hu. "Query and Information Management Support for Consultation and Conference Systems Involving Medical Images." *Proceedings of SPIE Medical Imaging, PACS Design and Evaluation*, Feb. 26 - March 2, 1995, San Diego, CA, pp.440-451.
57. Olivia R. Liu Sheng, N. Chang, C. Wei and P. J. Hu. "Induction of Image Retrieval Knowledge from Radiologists' Reading Instances." *Proceedings of SPIE Medical Imaging, PACS Design and Evaluation*, Feb. 26 - March 2, 1995, San Diego, CA, pp.52-60.
58. Olivia R. Liu Sheng, C. Wei, M. Huang and P. J. Hu. "Machine Learning for Radiological Image Retrieval Knowledge." *Proceedings of 8th Conference on Computer Assisted Radiology (SCAR '94)*, J. M. Boehme, A. H. Rowberg and N. T. Wolfman (Eds.), Winston-Salem, NC, June 12-15, 1994, pp.360-367.
59. Olivia R. Liu Sheng, C. Wei, P. J. Hu and T. Han. "Analysis and Design of A Distributed Intelligent Multi-media Information System for Supporting Medical Image Reading." *Proceedings of the First IEEE Pacific Workshop on Distributed Multimedia Systems*, Feb. 26, 1994, Taipei, Taiwan, pp.109-128
60. A. Toshimitsu, Olivia R. Liu Sheng and P. Hu. "Radiology Teaching Conference Support System: Design, Implementation and Evaluation." *Proceedings of Healthcare Education Conference*, April 1994.
61. A. Toshimitsu, Olivia R. Liu Sheng and P. Hu. "Analysis of A Radiology Teaching Conference Support System." *Multimedia for Medical Applications*, 1994.
62. A. Toshimitsu and Olivia R. Liu Sheng. "Design and Implementation of A Radiology Teaching Conference Support System." *Proceedings of SPIE Medical Imaging VIII: PACS Design and Evaluation, SPIE Vol. 2165*, Feb. 1994, pp.318-329.
63. Olivia R. Liu Sheng, P. J. Hu, C. Wei, T. Ovitt and S. Akata. "Acquisition and Evaluation of Knowledge-based Image Retrieval System." *Proceedings of SPIE Medical Imaging, PACS Design and Evaluation*, Feb. 15-18, 1994, Newport Beach, CA, pp.714-725.

64. Olivia R. Liu Sheng, C. Wei, P. J. Hu, S. A. Sutjahjo and T. Han. "Knowledge-based Image Retrieval System: The Next Generation Design." *Proceedings of SPIE Medical Imaging, PACS Design and Evaluation*, Feb. 15-18, 1994, Newport Beach, CA, pp.137-148.
65. Olivia R. Liu Sheng, J. S. Ramberg, C. Wei and Y. Peng. "An Integrated Information System and a Robust Design Methodology for New Semiconductor Production Introductions." *Proceedings of the NSF conference*, Chappel-Hill, North Carolina, Jan. 6-8, 1993.
66. H. M. Chen Garcia and Olivia R. Liu Sheng. "An Entity-Relationship-based Methodology for Distributed Database Design: An Integrated Approach Towards Combined Logical and Distribution Designs." *Proceedings of the 11th International Conference on the Entity Relationship Approach*, Oct. 7-9, 1992, Karlsruhe, Germany.
67. Olivia R. Liu Sheng, C. Wei, T. Ozeki, T. W. Ovitt and J. Ishida. "Design of Knowledge-based Image Retrieval System: Implications from Radiologists Cognitive Processes." *Proceedings of SPIE Medical Imaging VI: PACS Design and Evaluation, Vol. 1654*, Feb. 1992, pp.243-254.
68. Olivia R. Liu Sheng, C. Wei and H. M. Garcia. "Design and Implementation of a Distributed PACS Database System." *Proceedings of SPIE Medical Imaging VI: PACS Design and Evaluation, Vol. 1654*, Feb. 1992, pp.191-202.
69. Olivia R. Liu Sheng and C. Wei. "Object-Oriented Modeling and Design for Coupled Knowledge-base and Database Systems." *Proceedings of 8th International Conference on Data Engineering*, February 3-7, 1992, pp.98-105.
70. R. Askin, J. Ramberg, Olivia R. Liu Sheng. "Information System Design and Resource Allocation for Concurrent Engineering in the Semiconductor Industry." *Proceedings of NSF Design and Manufacturing Conference*, Jan.8-10, 1992, pp.821-825.
71. H. M. Chen Garcia and Olivia R. Liu Sheng. "A Semantics-based Methodology for Integrated Computer-Aided Distributed Database Design." *Proceedings of Hawaii International Conference on System Sciences (HICSS-25)*, Jan. 6 - 10, 1992, pp. 288 - 299.
72. Olivia R. Liu Sheng, C. Wei and T. Ozeki. "Patient Image Retrieval: An Object-Oriented Coupled Knowledge-base/Database Approach." *Proceedings of Hawaii International Conference on System Sciences (HICSS-25) Vol. III*, Jan. 6-10, 1992, pp. 89 - 100.
73. J. Morrison, M. Morrison, Olivia R. Liu Sheng, D. Vogel and J. F. Nunamaker. "Development of a Prototype Software System to Support Distributed Team Collaboration." *DSS-91 Transactions of the 11th International Conference on Decision Support Systems*, June 3-5, 1991, Manhattan Beach, CA, pp.179-194.
74. C. Wang, T. Ovitt, Olivia R. Liu Sheng and H. M. Chen Garcia. "Image Retrieval Expert Systems." *Proceedings of Computer Applications to Assist Radiology 1990 (SCAR-90)*, Edited by R. L. Arenson and R. M. Friedenber, pp.198-204.
75. J. M. Sheng and Olivia R. Liu Sheng. "Optimizing Geometric Set Operations Queries." *Proceedings of the 4th Symposium on Spatial Data Handling*, July 22-26, 1990, Zurich, Switzerland, pp.117-126.
76. Olivia R. Liu Sheng, H. C. Wang and H. M. Chen Garcia. "IRES: Image Retrieval Expert System." *Proceedings of SPIE Medical Imaging IV Conference*, SPIE Vol. 1234, Feb. 4-9, 1990, Newport Beach CA, pp.832- 841.
77. Olivia R. Liu Sheng, et. al. "Distributed Database Design and Modeling for PACS." *Proceedings of SPIE Medical Imaging IV Conference, SPIE Vol. 1234*, Feb. 4-9, 1990, Newport Beach, CA, pp.256-269.
78. Olivia R. Liu Sheng, et. al. "Requirement Analysis for PACS Database Systems." *Proceedings of SPIE Medical Imaging IV Conference, SPIE Vol. 1234*, Feb. 4-9, 1990, Newport Beach, CA, pp.842-854.
79. Olivia R. Liu Sheng, J. Hu, Y. Huang and R. Martinez. "DIAES -- A Distributed Image Archiving Expert System." *Proceedings of the 9th International Phoenix Conference on Computers and Communication*, 1990, pp.749-757.

80. Olivia R. Liu Sheng and H. M. Chen Garcia. "The Design of Medical Image Databases: A Distributed Approach." *Proceedings of the 9th International Phoenix Conference on Computers and Communication*, 1990, pp.288-295.
81. Olivia R. Liu Sheng and H. M. Chen Garcia. "Information Management in Hospitals: An Integrating Approach." *Proceedings of the 9th International Phoenix Conference on Computers and Communication*, 1990, pp.296-303.
82. H. Lee and Olivia R. Liu Sheng. "Optimal Data Allocation in a Bus Network." *Proceedings of the 9th International Phoenix Conference on Computers and Communication*, 1990, pp.394-399.
83. J. M. Sheng and Olivia R. Liu Sheng. "R-trees for Large Geographic Information Systems in a Multi-user Environment." *Proceedings of Hawaii International Conference on System Sciences (HICSS-23)*, 1990, Vol. II, pp.10-17.
84. M. Aiken, L. Motiwalla, Olivia R. Liu Sheng and J. Nunamaker. "ESP: An Expert System for Pre-Session Group Decision Support Systems Planning." *Proceedings of Hawaii International Conference on System Sciences (HICSS-23)*, 1990, Vol. III pp.279-286.
85. M. Aiken, L. Motiwalla, Olivia R. Liu Sheng and J. Nunamaker. "An Expert System Approach to Group Decision Support System Tool." *Proceedings of National Association For Computer Educators Conference*, Sep. 1989, Denver, Colorado.
86. K. Higa and Olivia R. Liu Sheng. "An Object-Oriented Methodology for End-user Logical Database Design: The Structured Entity Model Approach." *Proceedings of IEEE COMPSAC 89*, September 20 - 22, 1989, Orlando, Florida, pp.365-374.
87. L. Motiwalla, K. Higa, Olivia R. Liu Sheng and J. F. Nunamaker. "A Knowledge-Based Mail System to Support Managerial Activities." *Proceedings of Hawaii International Conference on System Sciences (HICSS-22)*, 1989, pp.650-659.
88. Olivia R. Liu Sheng, L. Motiwalla, J. F. Nunamaker and D. Vogel. "A Framework to Support Managerial Activities using Office Information Systems." *Proceedings of Hawaii International Conference on System Sciences (HICSS-22)*, 1989, pp.532-540.
89. Olivia R. Liu Sheng. "Database Allocation in Ethernet-based Local Area Networks: A Queueing Analytic Approach." *Proceedings of Hawaii International Conference on System Sciences (HICSS-22)*, 1989, pp.733-742.
90. K. Higa and Olivia R. Liu Sheng. "Intelligent Database Development: An AI-mail Example." In *Expert Systems and Advanced Data Processing, Proceedings of the NARDAC Washington/ORNL/DSRD Conference*, Washington D.C., Nov. 2-3, 1987, pp.128-139.
91. Olivia R. Liu Sheng. "Dynamic File Migration in Distributed Computer Systems." *Proceedings of the 7th International Conference on Information Systems*, 1986, pp.113-115.
92. U. Sumita and Olivia R. Liu Sheng. "Numerical Exploration of Query Response Times in Distributed Database Systems and Related Optimization Problems." *Proceedings of IEEE INFOCOM 85*, Washington D.C., 1985, pp.130-139.

Book Chapters

L. Lin, P. J. Hu, Olivia R. Liu Sheng, and J. Tan, E-Diagnosis Support Systems: A Web-Based Decision Support System to Aid Complex Lower Back Pain Diagnosis & Management in *E-Health*, Wiley, 2005.

AWARDS AND GRANTS

1. Xiaohang Zhao, Xiao Fang, Jing He, and Olivia R. Liu Sheng. "A Deep Strategy for Text-Based Industry Classification." Received the **Best Paper award** at 3rd *INFORMS Workshop on Data Science*, October 19, 2019, Seattle.
2. Fang, Xiao, Olivia R. Liu Sheng, Paul Hu, Z. Li and X. Bai. "Social Network Analytics: Adoption, Persuasion, Recommendation, and Knowledge Refreshing" Project. **INFORMS Information Systems Society Design Science Award 2016.** "

3. Morid, Amin, Olivia R. Liu Sheng and Samir Abdelrahman. "Healthcare Predictive Analytics for Patient Time Series with Non-ignorable Missingness: The Case of Early ICU Mortality Prediction." **Best Paper**, 11th INFORMS Workshop on Data Mining and Decision Analytics, November 12, 2016.
4. Zhongming Ma, Gautam Pant and Olivia R. Liu Sheng. "Mining Competitor Relationships from Online News: A Network-based Approach," *Journal of Electronic Commerce Research and Applications*, (10), pp. 418-427, 2011. **Elected for recognition as one of six "ECRA Editors' Choice Articles" on ECRA's 15th Anniversary in 2016.**
5. Principal Investigator, "Towards Automatically Discovering Adverse Drug Effects from User Generated Content," FDA SBIR Grant 1R43FD004049-01A1 to Aculus LLC.
6. Principal Investigator, "Recommendation Analytics - Proof of Concept," \$200,000. by Wasatch Advisors, July 2006 – June 2007.
7. Principal Investigator, "Search Engine Optimization – Product Requirements Definition and Proof of Concept," by Optatio LLC, \$214,000.
8. Principal Investigator, "Renewing Global Knowledge Management Center" (with Dean Jack Brittain and Drs. Paul Hu and Gautam Pant) Utah State's Center of Excellence Planning Grant, July. 2005 – July. 2006, \$165,000 without indirect cost.
9. Principal Coordinator for contributions of over \$200,000 by Wasatch Advisors to the Global Knowledge Management Center, July 2005 – June 2006.
10. Principal Investigator, "Renewing Global Knowledge Management Center" (with Dean Jack Brittain and Dr. Paul Hu) Utah State's Center of Excellence Planning Grant, July. 2004 – June. 2005, \$115,000 without indirect cost.
11. Principal Investigator, "Cost Benefit Analysis for Utah State Wide Parcel Address Data Management," Information Technology Services and Advanced Geographic Resource Center, Utah and the Bureau of Land Management, \$20,000, July – December, 2004.
12. Principal Coordinator for inkind contributions of data base management, data mining, enterprise portal and UML software from IBM, valued over \$300,000, June 2004.
13. Principal Coordinator for contributions of over \$250,000 by Wasatch Advisors to the Global Knowledge Management Center, November 2003 – June 2005.
14. Principal Investigator, "Establishing Global Knowledge Management Center," (with Dean Jack Brittain and Dr. Paul Hu) Utah State's Center of Excellence Planning Grant, July. 2003 – June. 2004, \$112,000 without indirect cost.
15. Principal Investigator, "Preliminary Cost and Benefit Analysis of Parcel/Address Data Management," Bureau of Land Management, Sep. 2003 – December 2003, \$5,000.
16. Principal Investigator, "Operational Risk Management: The Good, the Bad and the Evil of Information Technology," (with Dr. Paul Hu) Cases on Utah-related Organizations Grant Program, David Eccles School of Business, University of Utah, \$5,000, 2003.
17. Principal Investigator, "Knowledge Management Center: Fueling Technology Innovation and Adoption," (with Dean Jack Brittain and Dr. Paul Hu) Utah State's Center of Excellence Planning Grant, Nov. 2002 – Feb. 2003, \$5000 without indirect cost.
18. Principal Investigator, "Develop and Evaluate a New Class of Integrated Data Mining Algorithms," (with Dr. Paul Hu) Research Incentive Seed Grant, University of Utah, Sep. 1, 2002 – Aug. 31, 2003, \$35,000 without indirect cost.
19. Principal Investigator, "Content and Knowledge Management for eBusiness." IBM Shared University Resources (SUR) Grant, September 2001, \$2 million total including \$300,000 server and storage hardware and \$1.7 million software.
20. Faculty advisor for Xiao Fang, recipient of IBM Cooperative Fellowship for "Knowledge Refreshing and Its Applications in Web Content Personalization and Distribution." Fall 2001 – Spring 2002, \$15,000 stipend with additional tuition and summer internship and renewable up to years.
21. Best Paper Award, *the 33rd Hawaii International Conference on Systems Science (HICSS-33)*.
22. Spearheaded or instrumental in obtaining technology donations, pro bono services, and scholarship, alumni and Alliance contributions in amount exceeding \$10 million from corporate sponsors

- including Andersen consulting, Arthur Andersen, Compaq, EMC², Ernst & Young, HP, Harvard Group, Honeywell, IBM, JD Edwards, Oracle and SAP.
23. Co-Principal Investigator, “E-Commerce Agent Research and Curriculum Development through HP E-speak: A Framework for Creating Wireless B2B Solutions,” with Dr. Hsinchun Chen, HP, 2000 – 2001, \$122,729.
 24. Principal Investigator, “Design and Experiments for Automated Procurement Processes,” with Dr. Daniel Zeng, 2000 – 2001, US Navy, ~ US \$50,000.
 25. Principal Investigator, “Extending and Intelligent Approaches to ADSM Data Audit System,” 1999 – 2000, IBM, US \$50,000 (Managing Investigator, 1998-1999, US\$100,000).
 26. Co-Principal Investigator, “Knowledge Management for Call Centers using SAP,” with Dr. Hsinchun Chen, SAP, 1998 – 1999, US \$75,000.
 27. Co-Principal Investigator, “Investigating Physicians’ Acceptance of Telemedicine Technology: A Model Comparison Approach,” with P. Chau, P. Hu, N. M. Hjelm and K. Y. Tam. 1998 – 2000, Hong Kong Research Grants Council, HK\$416,000.
 28. Principal investigator, “Data Mining in Integrated HIS, RIS and PACS databases,” part of the grant from Toshiba Medical Systems Division to the Radiology Department, 1997 – 1999. Task budget is \$100,000 (direct cost only).
 29. Co-Principal Investigator, “Design and Implementation of an Internet-based Local Business Case Resource Center,” University Grants Committee, Hong Kong, 1996 – 1997 Competitive Teaching Development Grant, HK \$3,988,100.
 30. Co-Principal Investigator, “Intranet-Based Workflow Management Systems for Virtual Organizations in Hong Kong,” Hong Kong Research Grants Council Earmarked Grant for Research, HK \$250,000, 1997 – 1999.
 31. Principal Investigator, “SMENet for Hong Kong’s Small and Medium Enterprises.” Hong Kong Productivity Council, HK \$50,000, 1997.
 32. Hong Kong National Expert, “Survey on Application of Information Technology (IT) in Manufacturing Industry,” Asian Productivity Organization, 1996 – 1997, US \$4,400 + travel support.
 33. Principal Investigator, “Global Telemedicine in Hong Kong: A Requirement and Effective Analysis,” Hong Kong Research Grants Council Earmarked Grant for Research, 1996- 1998, HK \$362,000.
 34. Principal Investigator, “Telemedicine in Pacific,” Hong Kong Research Grants Council Direct Allocation Grant, 1995 – 1996, HK \$90,000.
 35. Principal Investigator, “Intelligent Distributed Multimedia Database Systems,” Sun Microsystems, 1993 –1996, US \$55,000 plus equipment and software.
 36. Co-Principal Investigator, “TECHMAN: Integrated Information Systems Design for Management of Engineering Design Systems,” with J. Ramberg and R. Askin, NSF, January 1991 – July 1992, US \$100,000.
 37. Principal Investigator, “Image Retrieval Expert Systems,” Toshiba Corporation, October 1990 – October 1993, US \$75,000 (personnel cost only; hardware, software and additional travel and overhead support not included).
 38. Principal Investigator, “An Expert Electronic Communication (EEC) System: Support for Dynamic Organizational Communication,” NSF Center for Information Management Research, 1989 – 1991, US \$40,000 (personnel cost only; hardware, software and additional travel and overhead support not included).
 39. Co-Principal Investigator, “An Integrated Information System,” AIRMICS, U.S. Army, June 1989 – Dec. 1990, US \$225,000.
 40. Principal Investigator, “Design of Distributed Database Systems for PACS,” Toshiba Corporation, October 1988 – October 1990, US \$60,000 (personnel cost only; hardware, software and additional travel and overhead support not included).
 41. Co-Principal Investigator, “An Integrated Office Information System with Automated Group Planning Support,” with J. F. Nunamaker and D. Vogel, AIRMICS, U.S. Army, June 1988 – June 1989, US \$150,000.

42. Recipient, IBM Fellowship, 1983-1985.

PROFESSIONAL ACTIVITIES

Editorial Services and Award Application Reviews

1. Senior Editor, *Information Systems Research*, (December 2016 – present)
2. Co-Guest Senior Editor (with H. R. Rao, Ahmed Abbasi and Robin Dillon-Merrill), *Information Systems Research, special issue on Disaster Management* (November 2020 – February 2023)
3. Department Co-Editor, *Service Science, the Service Analytics and Big Data department* (November 2020 - present)
4. Selection committee member, *INFORMS-Information Systems Society*, Nunamaker-Chen Dissertation Awards (2018, 2019 and 2020)
5. Selection committee member, *INFORMS-Information Systems Society*, Sandra Slaughter Early Career Awards (2019 and 2020)
6. Selection committee member, *INFORMS-Information Systems Society*, Design Science Awards (2014 - 2015, 2017- 2020)
7. Guest Associate Editor, special issue of *MIS Quarterly* on IT and Analytics for Chronic Disease Management (2017-2018)
8. Guest Associate Editor, special issue of *Information Systems Research* on Ubiquitous IT (2015-2016)
9. Associate Editor, *Decision Support Systems*, (2014 – present)
10. Associate Editor, *ACM Transactions on Management Information Systems* (2010 – 2014)
11. Guest Associate Editor, special issue of *MIS Quarterly* on Business Intelligence (2011)
12. Associate Editor, *Information Systems Research* (2005 – 2008)
13. Associate Editor, *Journal of AIS* (2006 – 2010)
14. Guest Associate Editor, *MIS Quarterly* (2006)
15. Member of Advisory Board, *Information Technology & Systems*, the Information Systems & eBusiness Network abstracting journal by Social Science Research Network (2005 – 2010)
16. Member of Advisory Board, Special Interest Group of AIS on Ontology Driven Information Systems (2004- 2010)
17. Member of Advisory Editorial Board, *Journal of Computer Information Systems* (JCIS) (2003 – 2011)
18. Guest Associate editor, *INFORMS Journal on Computing* (previously *ORSA Journal on Computing* (2002 – 2006)
19. Member of Editorial Board, *Information Systems and eBusiness Management* (2001 – 2002)
20. Member of Editorial Board, *Electronic Commerce Research and Applications* (2001 – 2008)
21. Associate editor, *Journal of Information Technology and Management* (1997 - 2002)
22. Guest editor, special issue of *Decision Support Systems* on Decision Support for Health Care in a New Information Age (1997 - 1999)
23. Co-guest editor, special issue of *Journal of Parallel and Distributed Computing* on Engineering and Management of Distributed Multimedia Systems, Dec. 2000
24. Ad hoc associate editor, *Operations Research* (1993 - 1996)
25. Associate editor, *Telecommunication Systems* (1992 - 2005)
26. Co-guest editor, special issue of *IEEE Transactions on Knowledge and Data Engineering* on Multimedia Information Systems (August 1993)
27. Associate editor, *ORSA Journal on Computing* (1991 - 1992)

Conference Services and Seminar Presentations

1. Invited Keynote (one of two), “Analytics Research: Issues, Impact, Challenges and Opportunities.” First Annual Symposium on AI & Analytics, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee, May 14, 2021.

2. Co-Chair, Online AMCIS 2020 Doctoral Consortium, August 13-14.
3. Invited seminar presentations in 2017-2021, University of Illinois, Urbana-Champaign, University of Virginia - McIntire School of Commerce, George Mason University, George Washington University, University of Iowa, University of Rochester, University of Maryland, University of Texas, Austin, University of Massachusetts-Lowell, University of Illinois-Chicago, Temple University, University of Texas-Dallas, National University of Taiwan, National Tsing-Hwa University, Taiwan.
4. Invited panelist for the panel on "Publishing Data Science for Business Papers in IS Journals" at the 2nd INFORMS Workshop on Data Science (2018).
5. Invited judge for the INFORMS Data Mining Competition, November 2018 and October 2019.
6. Ph.D. Consortium Faculty Mentor, ICIS 2018, San Francisco.
7. Invited panelist for the panel on "Internet of Things: Opportunities and Challenges to Business, Society and IS." ICIS 2017, Seoul, Korea.
8. Invited organizer for the panel on "Industry-Academia Collaboration and Research Grants," MIS Academic Leadership Conference, Nov. 9-11, 2017.
9. Invited organizer for the panel on "Publishing Data Science Papers in IS Journals: Challenges and Editorial Advice," Inaugural INFORMS Workshop on Data Science, Oct. 21, 2017.
10. Invited judge for the INFORMS Data Mining Competition, Oct. 22, 2017.
11. Member of Senior Advisor Board, China Summer Workshop on Information Management (2017-2018), and Inaugural INFORMS Workshop on Data Science (2017).
12. Invited keynote and panel speaker at INFORMS Workshop on Data Mining and Decision Analytics (2016), Taiwan Summer Workshop on Information Management (2015-2016), China Summer Workshop on Information Management (2017).
13. Coordinating Co-Track Chair, Data Science and Business Analytics Track, ICIS 2016.
14. General Chair or co-Chair, Utah Winter Conference on Business Intelligence, 2005 - present.
15. INFORMS ISS Design Science Award committee members, 2013-2015.
16. Best paper committee member, WITS 2009, CIST 2012 and 2020, WITS 2015.
17. Design Science Track co-chair, ICIS 2009, Phoenix, Arizona, December 2009.
18. Program Committee Members, WITS, Web, ICDM 2009.
19. Invited session chair, 2008 INFORMS Annual meeting, Washington DC, October 2008.
20. General co-chair, Web2005, December 2005.
21. Program co-chair, 11th Workshop on Information Technology and Systems, New Orleans (Dec. 2001).
22. Program co-chair, 2nd International Conference on Electronic Commerce, Seoul, Korea (2000).
23. Cluster chair, Global Information Technology and Management, INFORMS International Meeting (June 1998).
24. Co-minitrack coordinator, Telemedicine: Remote Healthcare, 30th Hawaiian International Conference on Systems and Sciences (January 1997)
25. Co-program chair, the 3rd IEEE Pacific Workshop on Distributed Multimedia Systems (June 1996)
26. Cluster chair, Large-scale and global information systems, INFORMS National Meeting (May 1996)
27. Program chair, the 3rd International Summer Workshop on Methodology Engineering and Metamodelling (1994)
28. Executive committee member, IEEE International Phoenix Conference on Computers and Communications (1993 and 1994)
29. Courses chair, ACM Multimedia 93 conference (August 1993)
30. Member of program committees for 2003 and 2006 IEEE International Conference on Data Mining (ICDM '03), INFORMS (*Institute for Operations Research and the Management Science*) Conference on Information Systems and Technology (1996 – 1998, 2003), CASE 2002, Pacific Workshop on Distributed Multimedia Systems (1994 - 1998), 2nd International Real-time Database Workshop (1997), International Conference on Information Systems (1995, 1996, 1999-2001, 2006), Workshop on Information Technologies and Systems (1992 – 1997, 2002-2006), International Workshop on Multimedia Database Management Systems (1995 - 1998), 3rd International Conference on

Deductive and Object-Oriented Databases (1993), 1992 International Computer Symposium (1992), 11th Conference on the Entity-Relationship Approach (1992), 1st workshop on Multimedia Information Systems (1993) and IEEE International Phoenix Conference on Computers and Communications (1990 - 1992)

Grant Proposal Review Services:

NSF, NIH, and Hong Kong Research Grants Council

Professional Society Services

1. Advisor for the McCude Project on IS curriculum, initiated by AACSB and co-sponsored by Association of Information Systems - AIS (April 2020 - present)
2. Outside expert, Arizona Telecommunication and Information Council
3. Advisory Board member, Information Technology Association of Southern Arizona, Greater Tucson Economic Council (1998 – 2001)
4. Medical Advisory Panel member, VTEL SmartVideoconferencing (1997 - 1999)
5. Elected Secretary/Treasurer, INFORMS College on Information Systems (1996 - 1997)
6. Council member, Hong Kong Telemedicine Society (1996 - 1997)
7. Committee member, Hong Kong Oracle User Group (1995 - 1997)
8. Member of IEEE, ACM, INFORMS and AIS
9. Faculty honorary initiate, Beta Gamma Sigma, May 2000.

Evaluation Services

1. Evaluation member for the College of Mgmt., National Sun Yat Sen University, Taiwan, R.O.C.
2. Evaluation member for the Information Science and Quantitative Analysis Department, Louisiana State University, March 14 – 16, 2001.
3. Evaluation member for the Computer Science Department, University of Arizona, December 2000.

UNIVERSITY SERVICES

University of Utah

1. DESB Equity, Diversity and Inclusion (EDI) Committee Member (March 2021 – present)
2. UI2 (University Initiative on Informatics) Committee Member (October 2019 – present)
3. Judge, 2018 Super Bowl Ad Analytics Competition, February 9, 2018
4. Internal Reviewer for Mechanical Engineering Department's Academic Program Review (2017)
5. DESB RPT Committee Member (2013 – 2015, 2017-2018)
6. DESB Ph.D. Committee Member (2012-2013, 2017-2018)
7. Supervise numerous 1st-year and 2nd-year Ph.D. papers and Capstone projects (2002-present)
8. Founding Chair, Winter Conference on Business Analytics (previously Winter Conference on Business Intelligence), 2005-2017 and 2019 - 2020.
9. Tenured Faculty Review Policy Task Force (2015-2017)
10. DESB RPT Committee Member (2013 – 2015, 2017-2018)
11. DESB Faculty President (2014-2015)
12. Faculty representative, MSIS Board of Advisors (2013-2016)
13. DESB Undergraduate Committee (2013 – 2015)
14. VP, Faculty Council, David Eccles School of Business, University of Utah (2013-2014)
15. Member, University Research Committee, University of Utah (2003 – 2006; 2013 - present)
16. Member, Research Incentive Seed Grant Proposal Review Committee, University of Utah (2003 – 2006, 2012 - present)

17. Member, Search Committee for Director of Biomedical Informatics Department, College of Medicine (August 2012 – May 2013)
18. Member, UPTAC (2012 – 2015)
19. Member, University Computing Task Force Committee, University of Utah (2006 – 2013)
20. Chair/Co-Chair, Winter Conference on Business Intelligence, University of Utah (2005 – present)
21. Coordinator, Independent Studies for MSIS students (2012 – present)
22. Initiate and facilitate students participation in IS Case Competitions held or to be held at UBC, UMN and SMU (2009, 2012 and 2013)
23. Member, International Study Board (2006 – 2009)
24. Member, eCommerce Committee, University of Utah (2003)
25. Facilitator, Dean's IT Roundtable, David Eccles School of Business (2002 – 2006)
26. Co-chair, Ph.D. Curriculum Committee, School of Accounting Information Systems (2002 – 2005)

University of Arizona

1. Faculty Advisor to initiate a new student club, Woman in Digital Economy (2001 – 2002).
2. Board member, Woman in Science and Engineering, (2000 - 2002).
3. Member, Intellectual Property Advisory Committee, (2000)
4. Member, Academic Program Review Committee, Computer Science, Fall 2000.
5. Chair, Board of Advisors, Department of Management Information Systems (1998-2000)
6. Member, Information Technology Council (1998 - 1999)
7. Member, Advisory Council on Faculty Development (1998-1999)
8. Member, the task force for Arizona Software Institute (1998-1999)
9. Co-chair, the Informatics Curriculum Committee (1997- 2000)
10. Member, the Heads Up Steering Committee (1998-2000)
11. Member, Search Committee for Director of Eller Graduate School (1998-1999)
12. Member, Biomedical Engineering Committee, University of Arizona (1995, 1999 - 2002)
13. Member, Graduate Studies Committee, Dept. of MIS, College of BPA, University of Arizona (1994 - 1995)
14. Chair, Recruiting Committee, Dept. of Management Information Systems (MIS), College of BPA, University of Arizona (1992 - 1995)
15. Chair, Administrative Computing Advisory Committee, University of Arizona (1992 -1993)
16. Member, Faculty Governance Committee, College of Business and Public Administration (BPA), University of Arizona (1992 - 1993)
17. Member, Recruiting Advisory Committee, College of BPA, University of Arizona (1992 - 1993)
18. Member, Executive Committee, Dept. of MIS, College of BPA, University of Arizona (1992 - 1993)
19. Member, Performance Evaluation Committee, Dept. of MIS, College of BPA, University of Arizona (1992, 1994)
20. Member, Administration Computing Advisory Committee, University of Arizona (1990 - 1992)
21. Member, over 20 Ph.D. committees, University of Arizona and HKUST (1986 - 2003)
22. Advisor, over 30 Master's projects (theses), Dept. of ISMT, College of BPA, University of Arizona (1986 - 2002)

Hong Kong University of Science and Technology

1. Chair, Research Committee, School of Business and Management (SBM), HKUST (1996 - 1997)
2. Advisory Board Member, Sino Software Research Institute, HKUST (1995 - 1997)
3. Member, Academic Review Committee, SBM, HKUST (1995 - 1997)
4. Chair, Academic Review Committee for Lecturers, Dept. of ISMT, SBM, HKUST (1995 – 1997)
5. Member, Substantiation Committee, Dept. of ISMT, SBM, HKUST (1995 - 1997)
6. Member, Executive Committee, Dept. of ISMT, SBM, HKUST (1995 – 1997)

DOCTORAL DISSERTATIONS SUPERVISED, CO-SUPERVISED

1. Joseph Dunbar, "Deep Learning and Matrix Completion Approaches to Multivariate Time Series Prediction." (Tentative Title), Targeted Graduation: Summer 2022.
2. Yu Zhu, "Deep Learning Multimodal Approaches to One-Stage Supervised Prediction Based on Text." (Tentative Title), Targeted Graduation: Summer 2023.
3. (Co-Advisor) Yang Wang, "Impact of Online Reviews on Internet Retailers." Summer 2018.
4. Amin Morid, "Healthcare Predictive Analytics: Clinical Decision, Cost and Quality Management." Summer 2018.
5. (Co-Advisor) Lionel Li, "Utility-Based Link Recommendation For Social Networks." Summer 2013. Current Affiliation: Tenured Associate Professor, York University, Canada.
6. Chong Oh, "Sentiment Extraction and Prediction." May 2013 (Defense on March 8), University of Utah.
7. Zhuo Yang, "Knowledge Discovery in Database: Cost-sensitive and Imbalance Learning." August 2010. Current affiliation: Principal BI Analyst at Symantec.
8. Zhongming Ma, "Web Mining For Knowledge Discovery." May 2007, University of Utah (co-advise with Dr. Gautam Pant). Current Position: Professor, California State University, Ponom.
9. Wei Gao, "Integrated Object-Sensitive Web Caching and Storage Management." May 2005, University of Arizona. Current Position: Chief Data Scientist at HealthPrize Technologies.
10. Lin Lin, "Online Consumer Lifetime." May 2004, University of Arizona.
11. Xiao Fang, "Knowledge Refreshing: Model, Solution and Applications," University of Arizona. (August 2003). Current Position: Professor, University of Delaware.
12. Paul Jen-Hwa Hu, "Organizational Management of Technological Innovations: Telemedicine in Electronic Healthcare Markets," University of Arizona (December 1997). Current Position: Professor, University of Utah.
13. Bongsik Shin, "The Implications of Information Technology in Telework: Adoption Model and Influencing Factors of Communication Media Choice among Teleworkers," University of Arizona (1997). Current Position: Professor, San Diego State University.
14. Zehai Zhou, "Data Allocation and Query Optimization in Large Scale Distributed Databases," University of Arizona (1996): Current Position: Associate Professor, University of Houston, Downtown.
15. Chihping Wei, "Schema Management for Large-Scale Multi-Database Systems," University of Arizona (1996). Current Position: Professor, National Taiwan University, Taiwan, R.O.C.
16. Namsik Chang, "Knowledge Discovery in Databases with Joint Decision Outcomes: A Decision-Tree Induction Approach," University of Arizona (1995). Current Position: Professor, City University of Seoul.
17. Russell Anderson, "Decision Support For Multi-Objective Linear Programming Using an Interactive Graphic Presentation," University of Arizona (1994). Current Position: Area Technology Specialist at LDS Church.
18. Hong-Mei Chen, "A Semantics-based Distributed Database Design Methodology: Toward Combined Logical and Fragmentation Design," University of Arizona (1992). Current Position: Professor, University of Hawaii.
19. Milam Aiken, "An Expert Systems Approach to Group Decision Support Systems Pre-Session Planning," University of Arizona (1991). Current Position: Professor, University of Mississippi.
20. Heeseok Lee, "Data Allocation in Computer Networks," University of Arizona (1991). Current Position: Professor, Korea Advanced Institute of Science and Technology.
21. Kunihiro Higa, "An End-User Logical Database Design Methodology: The Structured Entity Model Approach," University of Arizona (1988). Current Position: Professor, Tokyo Institute of Technology.