

CURRICULUM VITAE

Dr. Jing Li

Industrial Engineering

School of Computing, Informatics and Decision Systems engineering

Arizona State University, Tempe, AZ, 85287-5906

Tel: (480)965-0125 (O)

Email: jinglz@asu.edu

URL: <http://www.public.asu.edu/~jli09/>

EDUCATION

Ph.D. 2007, Industrial and Operations Engineering, The University of Michigan

M.A. 2005, Statistics, The University of Michigan

B.S. 2000, Civil Engineering, Tsinghua University, P. R. China

EMPLOYMENT

Assistant Professor, Industrial Engineering, Arizona State University, August
2007~present

HONORS AND AWARDS

- NSF CAREER Award, 2012-2017
- Feature Article in IIE Magazine, 2010
- Feature Article in IIE Magazine, 2009
- Best Paper Award from Industrial Engineering Research Conference (IERC), Vancouver, Canada, 2008
- Best Paper Award from Industrial Engineering Research Conference (IERC), Orlando, FL, 2006
- Distinguished Academic Achievement Award, The University of Michigan, 2007
- Nominee for Distinguished Dissertation Award, The University of Michigan, 2007
- Rackham Predoctoral Fellowship, Horace H. Rackham School of Graduate Studies, The University of Michigan, 2006~2007
- Barbour Scholarship for Women Students, Horace H. Rackham School of Graduate Studies, The University of Michigan, 2006~2007
- Outstanding Student Instructor Award, American Society of Engineering

PUBLICATIONS

Refereed Journal Articles

1. Huang, S., Li, J., Ye, J., Fleisher, A., Chen, K., Wu, T., and Reiman, E., "A Sparse Structure Learning Algorithm for Bayesian Network Identification from High-Dimensional Data," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, in press.
2. Huang, S., Li, J., Chen, K., Wu, T., Ye, J., Wu, X., and Li, Y., "A Transfer Learning Approach for Network Modeling," *IIE Transactions*, in press.
3. Huang, S., Li, J., Lamb, G., Schmitt, M., and Fowler, J., "Multi-data Fusion for Enterprise Quality Improvement by a Multilevel Latent Response Model," *IIE Transactions*, in press.
4. Lyon, J., Pan, R., and Li, J., "National Evaluation of the Effect of Graduated Driver Licensing Laws on Teenager Fatality and Injury Crashes," *Journal of Safety Research*, in press.
5. Choi, S., Huang, S., Li, J., and Chae, J., "Monitoring Protein Distributions based on Patterns Generated by Protein Adsorption Behavior in a Microfluidic Channel," *Lab-on-a-Chip*, in press.
6. Ye, J., Wu, T., Li, J., and Chen, K., 2011, "Machine Learning Approaches for the Neuroimaging Study of Alzheimer's Disease," *IEEE Computer*, 99-101.
7. Li, J., and Jin, J., 2010, "Optimal Sensor Allocation by Integrating Causal Models and Set-Covering Algorithms," *IIE Transactions*, 42(8), 564-576.
8. Li, J., and Huang, S., 2010, "Regression-based Process Monitoring with Consideration of Measurement Errors," *IIE Transactions*, 42(2), 146-160.
9. Huang, S., Li, J., Sun, Li., Ye, J., Fleisher, A., Wu, T., Chen, K., and Reiman, E., 2010, "Learning Brain Connectivity of Alzheimer's Disease by Sparse Inverse Covariance Estimation," *NeuroImage*, 50, 935-949.
10. Huang, S., Pan, R., and Li, J., 2010, "A Graphical Technique and Penalized Likelihood Method for Identifying and Estimating Infant Failures," *IEEE Transactions on Reliability*, 59(4), 650-660.
11. Li, J., Xie, H., and Jin, J., 2010, "Optimal Process Adjustment by Integrating Production Data and Design of Experiments," *Quality and Reliability Engineering International*, 27(3), 327-336.
12. Jin, J. and Li, J., 2009, "Multiscale Mapping of Aggregated Signal Features to Embedded Time-Frequency Localized Operations Using Wavelets," *IIE Transactions*, 41(7), 615-625.

13. Li, J., Jin, J., and Shi, J., 2008, "Causation-based T² Decomposition for Multivariate Process Monitoring and Diagnosis," *Journal of Quality Technology*, 40(1), 46-58.
14. Li, J., Huang, K.Y., Jin, J., and Shi, J., 2008, "A Survey on Statistical Methods for Health Care Fraud Detection," *Health Care Management Science*, 11, 275-287.
15. Li, J., Shi, J., and Satz, D., 2008, "Modeling and Analysis of Disease and Risk Factors through Learning Bayesian Network from Observational Data," *Quality and Reliability Engineering International*, 24, 291-302.
16. Li, J., and Shi, J., 2007, "Knowledge Discovery from Observational Data for Process Control using Causal Bayesian Networks," *IIE Transactions*, 39 (6), 681 - 690.
17. Li, J., Shi, J., and Chang, T.S., 2007, "On-line Seam Detection in Rolling Processes using Snake Projection and Discrete Wavelet Transform," *ASME Transactions, Journal of Manufacturing Science and Engineering*, 129(5), 926-933.
18. Lin, G., Li, J., Hu, S. J., and Cai, W., 2007, "A Computational Response Surface Study of 3D Aluminum Hemming using Solid-to-Shell Mapping," *ASME Transactions, Journal of Manufacturing Science and Engineering*, 129(2), 360-368.
19. Jin, R., Li, J., and Shi, J., 2007, "Quality Prediction and Control in Rolling Processes using Logistic Regression," *Transactions of NAMRI/SME*, 35, 113-120.
20. Liu, J., Li, J., and Shi, J., 2005, "Integration of Engineering Knowledge Driven Cause-Effect Modeling and Statistical Analysis for Multi-Operational Machining Process Diagnosis," *Transactions of NAMRI/SME*, 33, 65-72.

Premier Conference Proceedings (peer-reviewed with acceptance rate <20%)

1. Huang, S., Li, J., Ye, J., Wu, T., Chen, K., Fleisher, A., Reiman, E., "Identifying Alzheimer's Disease-Related Brain Regions from Multi-Modality Neuroimaging Data using Sparse Composite Linear Discrimination Analysis," *The 25th Annual Conference on Neural Information Processing Systems (NIPS 2011)* (paper acceptance rate 4.8%) December 13-15, 2011, Granada, Spain.
2. Huang, S., Li, J., Ye, J., Fleisher, A., Chen, K., and Wu, T., Reiman, E., "Brain Effective Connectivity modeling for Alzheimer's Disease by Sparse Bayesian Network," *The 17th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD 2011)* (paper acceptance rate 17.5%), August 21-24, 2011, San Diego, USA.
3. Huang, S., Li, J., Sun, Li., Ye, J., Chen, K., and Wu, T., Fleisher, A., and Reiman, E., "Learning Brain Connectivity of Alzheimer's Disease from Neuroimaging Data," *The 23rd Annual Conference on Neural Information Processing Systems (NIPS 2009)* (paper acceptance rate 8%), December 7-9, 2009, Vancouver, B.C., Canada.
4. Sun, L., Patel, R., Liu, J., Chen, K., Wu, T., Li, J., Reiman, R., and Ye, J., 2009,

"Mining Brain Region Connectivity for Alzheimer's Disease Study via Sparse Inverse Covariance Estimation," *The 15th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD 2009)* (paper acceptance rate 9.8%), June 28-July 1, 2009, Paris, France.

5. Ye, J., Chen, K., Wu, T., **Li, J.**, Zhao, Z., Patel, R., Bai, M., Janardan, R., Liu, H., Alexander, G., and Reiman, E., 2008, "Heterogeneous Data Fusion for Alzheimer's Disease Study," *The 14th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD 2008)* (paper acceptance rate 14%), August 24-27, 2008, Las Vegas, USA.

Manuscripts under Review

1. Inman, R.R., Blumenfeld, D.E., Huang, N., Li, J., and **Li, J.**, "Survey of Recent Advances in Designing Production Systems for Quality," *IIE Transactions*, minor revision.
2. Huang, S., **Li, J.**, Ye, J., Chen, K., Wu, T., Fleisher, A., and Reiman, E., "Sparse Composite Linear Discrimination Analysis for Multi-Modality Neuroimaging Data Fusion," *IEEE Transactions on Medical Imaging*.

RESEARCH GRANTS

- NSF-CMMI, "CAREER: Transfer Learning Based Quality Improvement in Spatially-Temporally Complex Systems," Feb 2012-Jan 2017, \$400,000, **PI: Jing Li**
- Joint NIH-NIGMS and NSF-DMS, "Collaborative Research: Sparse Structure Identification from High-Dimensional Epigenomic Data by Novel Statistical Methods," Sep 2010-Aug 2014, \$1,132,877, **PIs: Jing Li** (ASU), Ji Zhu (U of Michigan), Wei Wang (UCSD)
- NSF-CMMI, "Collaborative Research: Multi-Level Data Fusion for Real-Time Prognostic Health Management of Hierarchical Systems," Apr 2011-Mar 2014, \$438,185, **PIs: Jing Li** (ASU), Jian Liu (U of Arizona)
- NSF-CMMI, "Regression-based Quality Improvement in Complex Systems with Consideration of Data Uncertainty," Sep 2008-Aug 2011, \$184,476, **PI: Jing Li**
- NSF-REU, "Regression-based Quality Improvement in Complex Systems with Consideration of Data Uncertainty," Jun-Sep 2009, \$6,000, **PI: Jing Li**
- Arizona Department of Transportation, "Effectiveness of Young Driver Training and Graduated Licensing Laws," Oct 2008-Apr 2011, \$200,000, **PI: Rong Pan, co-PI: Jing Li**
- Arizona Alzheimer's Consortium, "Heterogeneous Data Fusion and Analysis for Alzheimer's Disease Study," 2008-2009, \$10,000, **PI: Jieping Ye, co-PIs: Jing Li, Teresa Wu.**

INVITED TALKS

- "Regression-based Process Monitoring with Consideration of Measurement Errors," Session on IIE Transactions, INFORMS Annual Conference, Austin, 2010
- "Transfer Learning of Exploratory Graphical Models with Application in Alzheimer's Disease," University of Wisconsin-Madison, Nov 13, 2009
- "Transfer Learning of Exploratory Graphical Models with Application in Alzheimer's Disease," Georgia Tech, Nov 17, 2009
- "Learning Brain Connectivity of Alzheimer's Disease by Exploratory Graphical Models," the First International Conference on the Interface between Statistics and Engineering, Beijing, China, July 13-15, 2009.
- "Causation-based Methodologies with Applications in Health Care," University of Pittsburgh, May 7, 2009
- "Causation-based T^2 Decomposition for Multivariate Process Monitoring and Diagnosis," Session on Journal of Quality Technology: Data and Knowledge Engineering for Quality, INFORMS Annual Conference, D.C., 2008
- "Multitask Learning of Bayesian Networks with Application in Alzheimer's Disease Study," Academy of Mathematics & System Sciences, Chinese Academy of Sciences, Beijing, China, Dec 18, 2008.
- "Causation-based Quality Control Methodologies and Applications," Academy of Mathematics & System Sciences, Chinese Academy of Sciences, Beijing, China, May 7, 2008.

TECHNICAL PRESENTATIONS

1. "Transfer Learning of Graphical Models with Application in Alzheimer's Studies," INFORMS Annual Conference, San Diego, 2009
2. "Integration of Causal Models and Set-Covering Algorithms for Optimal Sensor Allocation," Session on Recent Advances in Data Mining and Machine Learning, INFORMS Annual Conference, D.C., 2008
3. "Dempster-Shafer Theory based Simultaneous Learning of Multiple Bayesian Networks," 3rd pre-INFORMS Workshop on Data Mining and Health Informatics, D.C., 2008
4. "Causation-based T^2 Decomposition for Multivariate Process Monitoring and Diagnosis," Industrial Engineering Research Conference, Orlando, FL, 2006
5. "Data Mining and Causal Discovery for Process Control in Manufacturing Hot Rolling Processes," INFORMS Annual Conference, Pittsburgh, PA, 2006
6. "A Survey of the Statistical Methods on Health Care Fraud Detection," INFORMS Annual Conference, Pittsburgh, PA, 2006

7. "On-line Seam Detection in Rolling Processes using Snake Projection and Discrete Wavelet Transform," International Conference on Manufacturing Science and Engineering, Ypsilanti, MI, 2006.
8. "Integration of Causal Modeling and SPC for Process Monitoring and Diagnosis," INFORMS Annual Conference, San Francisco, CA, 2005
9. "Structure Learning of Probabilistic Networks with the Consideration of Data Uncertainties," INFORMS Annual Conference, San Francisco, CA, 2005
10. "Data Mining and Causal Discovery for Process Control in Complex Manufacturing Processes," INFORMS Annual Conference, Denver, CO, 2004
11. "Study the Relationship between Diseases and Risk Factors in Epidemiology through Casual Discovery and Data Mining," INFORMS Annual Conference, Denver, CO, 2004
12. "On-Line Surface Defect Detection in Rolling Processes using Discrete Wavelet Transform for Feature Extraction," INFORMS Annual Conference, Atlanta, GA, 2003.

TEACHING

- Graduate course "Statistical Learning and Predictive Models," IE, ASU.
- Graduate course "Advanced Quality Control," IE, ASU.
- Undergraduate course "Quality Control," IE, ASU.
- Undergraduate course "Engineering Statistics with Probability," IE, ASU.
- Undergraduate course "Introduction to Industrial Engineering," IE, ASU.
- Joint Graduate/Undergraduate course "Statistical Quality Control," IOE, University of Michigan

PROFESSIONAL SERVICE

Officer Position

- Chair, INFORMS Subdivision on Data Mining, 2011-2012
- Chair-elect, INFORMS Subdivision on Data Mining, 2010-2011
- Guest Editor, IIE Transactions Special Issue on Integration of Manufacturing System Design and Quality Management, 2011
- Associate Editor, Journal of Chinese Institute of Industrial Engineers, 2010-present
- Editorial Board, International Journal of Operations Research and Information Systems (IJORIS), 2009-present

- Elected Council Member, INFORMS Section on Data Mining, 2009-2010
- Guest Editor, INFORMS Special Issue of Quality and Reliability Engineering International, 2009-2010

Conference Organization

- Chair, Data Mining Cluster/Track (consisting of 23 technical sessions and panels), INFORMS Annual Conference, Charlotte, 2011
- Organizer and Chair, panel discussion session on “Funding Opportunities from NSF, NIH, and DOD,” INFORMS Annual Conference, Charlotte, 2011
- Organizer and Chair, panel discussion session on “Research on the Interface between Statistics and OR,” INFORMS Annual Conference, Austin, 2010
- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I, II, and III” INFORMS Annual Conference, Austin, 2010
- Co-organizer and Co-chair, sessions on “Statistical Modeling and Analysis of Biological Systems” INFORMS Annual Conference, Austin, 2010
- Organizing Committee, INFORMS Regional Conference, Tempe, AZ, 2009
- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I and II,” INFORMS Annual Conference, San Diego, 2009
- Organizer and Chair, panel discussion session on “Health Care in System Engineering: Past, Present, and Future Directions,” INFORMS Annual Conference, San Diego, 2009
- Organizer and Chair (also led paper review committee), 3rd pre-INFORMS Workshop on Data Mining and Health Informatics, D.C., 2008
- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I and II,” INFORMS Annual Conference, D.C., 2008
- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I, II, III and IV,” INFORMS Annual Conference, Seattle, WA, 2007
- Chair, session on “Bayesian Statistics Student Paper Competition: Applications in Biostatistics,” Joint Statistical Meetings, Salt Lake City, UT, 2007
- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I, II, III and IV,” INFORMS Annual Conference, Pittsburgh, PA, 2006
- Co-chair, session on “Advanced Condition Monitoring and Maintenance Technologies: Process and Equipment Monitoring,” International Conference on

Manufacturing Science and Engineering, Ypsilanti, MI, 2006

- Organizer and Chair, sessions on “Quality and Statistical Decision Making in Healthcare Applications I, II & III,” INFORMS Annual Conference, San Francisco, CA, 2005

University-wide Service

- Faculty Advisor, IIE Student Chapter, ASU, 2010-present (*ASU IIE Student Chapter Won the 2011 Gold Award*)
- Faculty Honors Advisor, Barrett Honors College, ASU, 2009-present
- Faculty Search Committee, IE, ASU, 2011
- Undergraduate Affairs Committee, IE, ASU, 2007~2008, 2009-present

Professional Affiliations

- Member of Institute of Industrial Engineers (IIE)
- Member of Institute for Operation Research and the Management Sciences (INFORMS)
- Member of American Society for Quality (ASQ)

OUTREACH

- Faculty advisor, IE Envoy (an outreach project that sends IE faculty and students to high school classrooms to introduce and promote IE)
- Faculty advisor, IE Website for High School Students (an outreach project that designs a kids friendly website to introduce and promote IE),
<http://ietohighschool.engineering.asu.edu/>