Yiye Zhang

Employment

July 2016 – Assistant Professor
Division of Health Informatics, Department of Health Policy and Research
Weill Cornell Medicine
Cornell University, New York, NY

Education

PhD	2011 – 2016	Information Systems and Management, Carnegie Mellon University (Thesis Committee: Rema Padman, PhD; Larry Wasserman, PhD; Ole Mengshoel, PhD)
MS	2009 – 2011	Biostatistics, Columbia University
BA	2005 – 2009	Mathematics (major) & Biology (minor), Washington University in St. Louis

Research Interests

- Clinical Pathway Learning and Visualization
- Predictive Modeling and Decision Support
- Computerized Provider Order Entry (CPOE)
- Chronic Kidney Disease (CKD)

Journal Publications

- **Zhang Y**, Padman R. Data-driven clinical and cost pathways for chronic care delivery. Am J Manag Care. 2016. Accepted.
- **Zhang Y**, Padman R. Innovations in chronic care delivery using data-driven clinical pathways. Am J Manag Care. 2015 Dec 1;21(12):e661-8.
- **Zhang Y**, Padman R, Patel N. Paving the COWpath: Learning and visualizing clinical pathways from electronic health record data. *Journal of Biomedical Informatics (JBI)*. 2015;58:186–197.
- **Zhang Y**, Padman R, Wasserman L, Patel N, Teredesai P, Xie Q. On Clinical Pathway Discovery from Electronic Health Record Data. *IEEE Intelligent Systems*. 2015;30(1):70-5.
- **Zhang Y**, Padman R, Levin JE. Paving the COWpath: data-driven design of pediatric order sets. *Journal of American Medical Informatics Association (JAMIA)*. 2014 Oct;21(e2):e304-11.
- Yao L, **Zhang Y**, Li Y, Sanseau P, Agarwal P. Electronic health records: Implications for drug discovery. *Drug Discovery Today*. 2011 Jul;16(13-14):594-9.

Awards

- Best Paper Award, International Conference on Decision Support System Technology 2016
- Top rated poster, Mayo Clinic Delivery Science Summit, 2015
- Doctoral Consortium at the 6th Annual Workshop on Health Information and Economics (WHITE), 2015
- Honorable Mention, INFORMS Healthcare Poster Competition, 2015
- Big Data Coursework for Computational Medicine (BDC4CM) Fellowship, 2015

- Second place, American Medical Informatics Association (AMIA) Knowledge Discovery and Data Mining (KDDM) Student Paper Competition, 2014
- Best Paper Runner Up, the 2nd International Conference on Big Data and Analytics in Healthcare (BDAH), 2014
- Finalist, Student Paper Competition at the 14th World Congress on Health and Biomedical Informatics (MEDINFO), 2013

Invited Talks

- IBM Research, September 2016
- Value Institute of New York Presbyterian Hospital, August 2016

Refereed Conference Proceedings

- **Zhang Y**, Padman R. Not Your Average Guideline: Innovating Clinical Pathway Development Using Patient-Centerd Evidence. Stanford Medicine X. Sep 2016. Accepted.
- **Zhang Y,** Padman R. Learning Clinical Pathways from Treatment Records and Laboratory Observations. Poster presentation at the *Mayo Clinic Delivery Science Summit.* Rochester, MN, 2015.
- Gartner D, **Zhang Y,** Padman R. Order Set Optimization using Mathematical Programming. Poster presentation at the *Mayo Clinic Delivery Science Summit.* Rochester, MN, 2015. (Top Poster Award)
- **Zhang Y**, Padman R. Examining Integrated Performance in Healthcare Using Data-driven Clinical Pathways. *The 6th Annual Workshop on Health IT and Economics.* Washington, DC. 2015
- **Zhang Y**, Padman R. Data-driven Order Set Development Using Meta-Heuristic Optimization. *15th Conference on Artificial Intelligence in Medicine (AIME 2015)*. Pavia, Italy, 2015.
- **Zhang Y**, Padman R, L. Wasserman. On Learning and Visualizing Practice-based Clinical Pathways for Chronic Kidney Disease. *American Medical Informatics Association (AMIA) 2014 Annual Symposium*. Washington, DC, 2014. (2nd place, KDDM Student Paper Competition)
- **Zhang Y**, Padman R, L. Wasserman. On Learning Clinical Pathways for Chronic Kidney Disease from Electronic Health Record Data: A Preliminary Graphical Approach. *2nd International Conference on Big Data and Analytics in Healthcare (BDAH)*. Singapore, 2014. (Best paper Runner-up)
- **Zhang Y**, Padman R, Levin JE. Reducing Provider Cognitive Workload in CPOE use: Optimizing Order Sets. 14th *World Congress on Health and Biomedical Informatics (MEDINFO)*. Copenhagen, Denmark, 2013. (Finalist, Student paper competition)
- **Zhang Y**, Padman R, Levin JE. Toward Order Set Optimization Using Click Cost Criteria in the Pediatric Environment. 46th *Hawaii International Conference on System Sciences (HICSS-46)*. Maui, HI, 2013.
- **Zhang Y**, Padman R, Levin JE. Clustering Methods for Data-driven Order Set Development in the Pediatric Environment. 7th *INFORMS Workshop on Data Mining and Healthcare Informatics*. Phoenix, AZ, 2012.
- **Zhang Y**, Padman R, Levin JE**.** Data-driven order set generation and evaluation in the pediatric environment. *American Medical Informatics Association (AMIA) 2012 Annual Symposium*. Chicago, IL, 2012. (Selected as 'Hot Pick' for the conference)

- Gartner D, **Zhang Y**, Padman R. Workload Reduction Through Usability Improvement of Hospital Information Systems - The Case of Order Set Optimization. *36th International Conference on Information Systems (ICIS)*. Fort Worth, TX, 2015. (accepted)

Other Conference Presentations

- **Zhang Y,** Padman R. On Learning and Visualizing Clinical Pathways from Electronic Health Records. *INFORMS Healthcare Conference*. Nashville, TN, 2015.
- **Zhang Y,** Padman R. Wasserman L. On Learning and Visualizing Practice-based Clinical Pathways for Chronic Kidney Disease. *INFORMS Annual Meeting*. San Francisco, CA, 2014.
- **Zhang Y**, Padman R, Levin JE. Data-driven Order Set Development in the Pediatric Environment: Toward Safer, More Efficient Patient Care. *INFORMS Healthcare Conference.* Chicago, IL, 2013.
- **Zhang Y**, Padman R, Levin JE. Clustering Methods for Data-driven Order Set Development in the Pediatric Environment. *INFORMS Annual Meeting*. Phoenix, AZ, 2012.
- Gartner D, **Zhang Y**, Padman R. Optimizing Order Sets for Computerized Provider Order Entry: A Mathematical Programming Approach. *22nd International Symposium on Mathematical Programming*. Pittsburgh, PA, 2015.
- Gartner D, **Zhang Y**, Padman R. Optimizing Order Sets in Computerized Provider Order Entry Systems: A Mathematical Programming Approach. Poster presentation at *INFORMS Healthcare Conference*. Nashville, TN, 2015. (Honorable Mention)
- Gartner D, **Zhang Y**, Padman R. Exact and Heuristic Approaches for Order Set Optimization. *INFORMS Computing Society Conference*, Richmond, VA, 2015.

Book Chapter

- **Zhang Y**, Padman R. Data-Driven Approaches for Developing Clinical Practice Guidelines. *Chapter in: Encyclopaedia of Healthcare Administration and Management.* IGI Global. 2016.

Publications Under Review/Preparation

- Gartner D, **Zhang Y**, Padman R. Workload Reduction Through Usability Improvement of Hospital Information Systems – The Case of Order Set Optimization. (under preparation for 2016 International Conference on Decision Support System Technology)
- Gartner D, **Zhang Y**, Padman R. Exact and Heuristic Methods for Order Set Optimization. (under preparation for *INFORMS Journal on Computing*)

Conference Participation

- 2015 INFORMS Annual Meeting, Philadelphia, PA
- 2015 INFORMS Healthcare Conference, Nashville, TN
- 2015 Clinical Research Informatics World Conference, Boston, MA
- 2015 National Bureau of Economics Research (NBER) Digitization Tutorial, Palo Alto, CA
- 2014 AMIA Annual Symposium, Washington, DC
- 2014 INFORMS Annual Meeting, San Francisco, CA
- 2013 INFORMS Healthcare, Chicago, IL
- 2013 HICSS, Maui, HI
- 2012 INFORMS Annual Meeting, Phoenix, AZ
- 2012 INFORMS Workshop on Data Mining and Health Informatics

- 2012 AMIA Annual Symposium, Chicago, IL

Software Research Prototypes

- Web-based Platform for Order Set Optimization
- Web-based Platform for Clinical Pathways Learning and Visualization

Teaching Experience

PhD advising:

- Faezeh Movahedi, Department of Electrical and Computer Engineering, Swanson School of Engineering, University of Pittsburgh

Teaching Assistant:
Carnegie Mellon University

- Economic Analysis, Fall 2012
- Statistics for IT Managers, Fall 2012
- Advanced Database Topics, Summer 2012
- Introduction to Database Management, Summer 2012
- Healthcare Information Systems, Spring 2012

Columbia University

- Introduction to Biostatistics, Fall 2010

Washington University in St. Louis

- Introduction to Statistics, Fall 2007

Professional Organization Memberships

American Medical Informatics Association (AMIA)
The Institute for Operations Research and Management Science (INFORMS)

Professional Service

- Reviewer: SAGE Open, 2016
- Reviewer: Smart Health, 2016
- Reviewer: Journal of American Medical Informatics Association, 2016
- Reviewer: Conference on Information Systems and Technology, 2016
- Reviewr: International Conference on Information Systems, 2016
- Reviewer: AMIA 2016 Annual Symposium, 2016
- Reviewer: 2016 Pacific Symposium on Biocomputing
- Reviewer: Nature Scientific Reports, 2015
- Reviewer: International Conference on Information Systems, 2015
- Reviewer: AMIA 2015 Annual Symposium, 2015
- Reviewer: HICSS, 2014
- Reviewer: AMIA 2014 Annual Symposium, 2014
- Reviewer: Healthcare Data Analytics from Wiley Series in Operations Research and Management Science

Previous Employment Experience

- Intern, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, June-August 2012

- Intern, Thomson Reuters, New York, NY, January-June 2011
- Intern, GlaxoSmithKline, King of Prussia, PA, June-August 2010

Funding

- IS Women's Network (ISWN): Advancing Women in IS Academia Workshop Stipend, 2015
- Carnegie Mellon University (CMU) Graduate Small project Help (GuSH) Research Funding, 2015
- CMU Graduate Student Assembly (GSA) Conference Funding, 2015
- CMU GSA Conference Funding, 2012
- Dr. Larry Chiang Scholarship, 2006 – 2009

Skills

- R, Matlab, SQL, SAS, Gephi, Hadoop, Stata, Weka, Orange, Python, Java, MapReduce, Latex
- Language: English (Fluent), Mandarin (Native), Japanese (Native)
- Japanese tea ceremony