Yichen Qin

Carl H. Lindner Hall, Room 529, University of Cincinnati, Cincinnati, OH 45221
Phone: (513) 556-7025 Email: qinyn@ucmail.uc.edu
http://homepages.uc.edu/~qinyn/

ACADEMIC EMPLOYMENT

University of Cincinnati Cincinnati, OH
Carl H. Lindner College of Business
Department of Operations, Business Analytics and Information Systems
Assistant Professor 08/2013-Present

EDUCATION

Johns Hopkins University Baltimore, MD
Ph.D. in Applied Mathematics and Statistics 06/2013
Dissertation Title: Robust Inference via Lq-Likelihood
Advisor: Prof. Carey E. Priebe
M.S.E. in Financial Mathematics 05/2012

Columbia University New York, NY
M.A. in Statistics 05/2007

Renmin University of China Beijing, China
B.Ec. in Statistics 06/2005

RESEARCH INTEREST

Computational Statistics, Robust Statistics, Clustering Analysis, Mixture Models, Variable Selection, Financial Statistics, Social Network Analysis

PUBLICATIONS

Published and Accepted

7. Zeng, X., Ma, S., **Qin, Y.,** Li, Y., "Variable Selection in Semiparametric Models for the Strong Hierarchical Longitudinal Data," *Statistics and Its Interface*, Accepted, 2014.
6. Li, J., Yi, D., **Qin, Y.,** Shen, Y., Li, Y., "Feature Selection for Support Vector Machine in the Study of Financial Early Warning System," *Quality and Reliability Engineering International*, Accepted, 2014.
5. Li, Y., **Qin, Y.,** Wang, L., Chen, J., Ma, S.,"Grouped Variable Selection Using Area under the ROC with Imbalanced Data," *Communications in Statistics - Simulation and Computation*, Accepted, 2014.
4. **Qin, Y.,** Priebe, C. E., "Maximum Lq-Likelihood Estimation via the Expectation Maximization Algorithm: A Robust Estimation of Mixture Models," *Journal of the American Statistical Association*, 108(503), 914-928, 2013.
3. Li, Y., **Qin, Y.,** Xie, Y., Tian, F., "Grouped Penalization Estimation of Osteoporosis Data in Traditional Chinese Medicine," *Journal of Applied Statistics*, 40(4), 699-711, 2013.
2. Nehren, D., Fellah, D., Ruiz-Mata, J., **Qin, Y.,** "Dynamic Density Estimation of Market Microstructure Variables via Auxiliary Particle Filtering," *Journal of Trading*, 7(4), 55-64, 2012.
1. Li, Y., Yi, D., Zhang, H., **Qin, Y.,** "Syndrome Evaluation in Traditional Chinese Medicine Using Second-Order Latent Variable Model," *Statistics in Medicine*, 31(7), 672-680, 2012.

Under Review

9. **Qin, Y.,** Priebe, C. E., "Robust Hypothesis Testing via Lq-Likelihood," Under review for *Biometrika*, 2015. Website: `http://homepages.uc.edu/~qinyn/LqLR/`
8. Li, Y., Yu, C., **Qin, Y.,** Wang, L., Chen, J., Yi, D., Shia, B.-C., Ma, S., "Regularized Receiver Operating Characteristic Based Logistic Regression for Grouped Variable Selection with Composite Criterion," Under review for *Journal of Statistical Computation and Simulation*, 2015.

Working Paper

10. Dunson, D. B., **Qin, Y.,** Priebe, C. E., Vogelstein, J. T.,"Robust Bayesian Inference via Lq-Likelihood," 2015.

Work in Progress

- Wang, X., **Qin, Y.,** Shan, Z. J.,"Clustering Analysis for Bitcoin Social Network."
- Ko, D.-G., **Qin, Y.,** "Exploratory Analysis of Factors Explaining a Successful Employee Hire."

PRESENTATIONS

- **Qin, Y.,** Priebe, C. E., "Robust Hypothesis Testing via Lq-Likelihood," *Joint Seminar of Statistics and Biostatistics*, Invited Talk at University of Georgia, Athen, GA, 2014.
- **Qin, Y.,** Priebe, C. E., "Maximum Lq-Likelihood Estimation via the Expectation Maximization Algorithm: A Robust Estimation of Mixture Models," *15th IMS New Researchers Conference*, Montreal, Quebec, Canada 2013.
- **Qin, Y.,** Nehren, D., Fellah, D., Ruiz-Mata, J., "Dynamic Density Estimation of Market Microstructure Variables via Auxiliary Particle Filtering," *J.P. Morgan Quantitative Research*, New York, NY 2011.
- **Qin, Y.,** Alpert, K. I., Wang, L., Priebe, C. E., "Brain Magnetic Resonance Image Segmentation via Mixture Model Averaging," *Joint Statistical Meeting*, Miami, FL 2011.
- Li, Y., **Qin, Y.,** Yi, D., Xie, Y., Shia, B.-C., Ma, S., "Categorical Predictor Selection of the Osteoporosis in Traditional Chinese Medicine by the Group Lasso," *The Fourth Annual International Symposium on the Evaluation of Clinical Trials Methodologies and Applications*, Beijing, 2011.
- Li, Y., Yi, D., **Qin, Y.,** "Modeling Longitudinal Multiple-endpoints Data with Iterative Estimating Equations," *International Conference on Statistics and Society*, Beijing, 2010.

TEACHING EXPERIENCE

University of Cincinnati Cincinnati, OH
Instructor 2013-Present

- Forecasting and Time Series Methods (BANA7050), Section 001, graduate Level, 56 students, rating: ongoing, 2015 Spring
- Business Analytics I (BANA2081), Section 009, 26 students, rating: 6.8/8.0, 2014 Fall
- Business Analytics I (BANA2081), Section 010, 55 students, rating: 6.2/8.0, 2014 Fall
- Forecasting and Time Series Methods (BANA7050), Section 001, graduate Level, 43 students, rating: 6.5/8.0, 2014 Spring
- Business Analytics I (BANA2081), Section 012, undergrad level, 25 students, rating: 7.4/8.0, 2013 Fall
- Business Analytics I (BANA2081), Section 013, undergrad level, 56 students, rating: 6.5/8.0, 2013 Fall
- Dean's List of Teaching Excellence, 2013 Fall

Johns Hopkins University Baltimore, MD
Teaching Assistant/Instructor 2008-2013

- Interest Rate and Credit Derivatives (550.445), 2013 Spring

- Applied Statistics and Data Analysis (550.413), 2012 Fall
- Mathematical Modeling and Consulting (550.400), 2012 Spring, 2010 Spring
- Data Mining (550.436), 2010 Fall
- Statistical Learning with Applications (550.437), 2009 Fall
- Topics in Bioinformatics (550.635), 2009 Fall
- Introduction to C++, 2013 Intersession
- Introduction to Excel VBA, 2012 Intersession
- Introduction to R, 2010 Summer, 2009 Summer, 2008 Summer

WORKING EXPERIENCE

J.P. Morgan, Quantitative Research New York, NY
Summer Associate (Internship) 06/2012-08/2012
Advisors: Daniel Nehren, David Fellah, and Jesus Ruiz-Mata

- Built hybrid linear factor model for multiple stock returns, developed stochastic volatility model for stock returns, and applied the model in portfolio management for risk prediction using Python.

J.P. Morgan, Quantitative Research New York, NY
Summer Associate (Internship) 06/2011-08/2011
Advisors: Daniel Nehren, David Fellah, and Jesus Ruiz-Mata

- Built nonlinear state space time series models with sequential Monte Carlo methods (auxiliary particle filter) to track and forecast distributions of the trading volume, the bid ask spread and detect abnormalities in trading activities.
- Developed new methods to estimate time varying hyperparameters of underlying processes of state space models.
- Published the methodology in Journal of Trading (peer-reviewed).

VERO Capital Management Towson, MD
Quantitative Analyst (Internship) 01/2009-05/2009

- Modeled default rate curves with semiparametric and nonparametric methods using R and MATLAB.
- Built ARMA/GARCH models to forecast housing prices based on macroeconomic indices using MATLAB.

Towers Perrin (now Towers Watson) San Francisco, CA
Actuary (Full-time) 06/2007-06/2008

- Evaluated the loss reserving sufficiency, estimated and predicted loss patterns, provided insurance products pricing, ran the loss scenario simulation, created and updated exhibits using Excel and Excel VBA.

Huatai Insurance Company, Headquarter Beijing, China
Underwriter (Full-time) 07/2005-07/2006

- Underwrote auto and house mortgage loan insurance policies.
- Participated in designing a new mortgage loan insurance by building actuarial models and simulation via ExcelVBA.

SKILLS

- Programming and Operating System: R, MATLAB, C, C++, Java, Excel VBA, Python, Linux

AWARDS AND ACTIVITIES

- Dean's List of Teaching Excellence, University of Cincinnati 2013 Fall
- American Statistical Association, Member 2006-Present

- INFORMS, Member 2014-Present
- Institute of Mathematical Statistics, Member 2014-Present
- Columbia Chess Club, Columbia University, Member 2006-2007
- Society of Actuaries: Passed Exam of Probability and Exam of Financial Mathematics
- Excellent Youth Volunteer Scholarship 2002

REFEREE EXPERIENCE

Journal Reviewer for 2013-Present

- Journal of the American Statistical Association
- Statistica Sinica
- Pattern Recognition

STUDENTS

Doctoral Student Advisor for:

- Shaobo Li (co-advising with Professor Yan Yu), Dissertation Topic: Maximum Tangent Likelihood Estimation and Robust Variable Selection

MS in Business Analytics Student Thesis Committee Member for:

- Ashmita Bora (first chair), Analyzing Student Behavior to Understand Their Rate of Success in STEMM Programs
- Yichen Liu (first chair), Group LASSO in Logistic Regression
- Subramanian Narayanaswamy (first chair), A Descriptive and Predictive Modeling Approach to Understand the Success Factors of STEM and Non-STEM Students at University of Cincinnati
- Hang Cheng, An Analysis of Cintas Uniform Service
- Suxing Zeng, Cluster-Based Predictive Models in Online Education Managment
- Yi Ying, Application of Data Mining Methods in Credit Risk Analysis and Modeling
- Yi Tan, Development of Growth Curves for Children with End-Stage Renal Disease
- Qi Sun, Application of Data Mining Methods in Bank Marketing Campaign
- Yucong Huang, An Analysis of the Twitter Sentiment System in the Financial-Services Industry
- Kiran Krishnakumar, Sales Prediction using Public Data: An Emerging-Markets Perspective
- Aashin Singla, Modeling the Preference of Wine Quality Using Logistic Regression Techniques
- Sumit Makashir, Statistical Meta-Analysis of Differential Gene Co-Expression in Lupus

MS in Business Analytics Student Case Study Reader for:

- Shuangshuang Ai, Forecasting Orders for Grocery Distribution Center
- Mehdi Mujtaba, University of Cincinnati Crime Analysis
- Xiuyun Zheng, Cluster Analysis on Demographic Data with Principal Components
- Biyang Liu, Forecasting Demand with ARIMA Model
- Kepei Ju, Prediction on the Occurrence of Fist Claims
- Wei Sun, Prediction of Number of Claims for AMIG
- Shengjun Hu, Predict the occurrence of the first claims of the dwelling properties insured by American Modern Insurance Group
- Inapuri Siva, Prediction of Number of Claims
- Luxin Liu, Time Series Analysis of Bond Originations

SERVICE

- Department Reappointment, Promotion and Tenure Committee, OBAIS, 2013 Fall
- Analytics Faculty Hiring Committee, OBAIS, 2013-2014
- Analytics Faculty Hiring Committee, OBAIS, ongoing, 2014-2015