

Ruoyao Shi

Last update on December 6, 2016

Department of Economics,
University of California Los Angeles,
8283 Bunche Hall, Mail Stop 147703,
Los Angeles, CA 90095, USA

Tel: +1.310.993.5553
Fax: +1.310.825.9528
Email: shiruoyao@ucla.edu
Website: <http://RuoyaoShi.github.io>

Education

University of California Los Angeles	LOS ANGELES, CA, USA
Ph.D., Economics, Department of Economics	June 2017 (expected)
M.A., Economics, Department of Economics	December 2012
Resident, California Center for Population Research	since July 2015
Peking University	BEIJING, CHINA
M.A., Economics, China Center for Economic Research (CCER)	July 2011
B.S., Statistics, School of Mathematical Science	July 2008
B.B.A., Management, Guanghua School of Management	July 2008
Hong Kong University of Science and Technology	HONG KONG, CHINA
Undergraduate exchange program, HKUST Business School	Spring 2006

References

Prof. Jinyong Hahn
hahn@econ.ucla.edu
Tel: +1(310)825-2523
Office: 8383 Bunche Hall,
Los Angeles, CA 90095, USA

Prof. Zhipeng Liao
zhipeng.liao@econ.ucla.edu
Tel: +1(310)794-5427
Office: 8379 Bunche Hall,
Los Angeles, CA 90095, USA

Prof. Rosa Liliana Matzkin
matzkin@econ.ucla.edu
Tel: +1(310)825-7371
Office: 8349 Bunche Hall
Los Angeles, CA 90095, USA

Prof. Moshe Buchinsky
buchinsky@econ.ucla.edu
Tel: +1(310)206-9665
Office: 8373 Bunche Hall
Los Angeles, CA 90095, USA

Research Interests

Econometrics (Primary), Applied Microeconomics, Labor Economics (Secondary)

Awards, Prizes and Fellowships

- Dissertation Year Fellowship, UCLA, 2016;
- Honor Pass in Econometrics Comprehensive Exam, UCLA, 2012;
- Pauley Fellowship, UCLA, 2011;
- Distinguished Student of Peking University, Peking University, 2011;

- Kwang-Hua Graduate Research Award, Peking University, 2009;
 - Graduate Fellowships, Peking University, 2008-2010;
 - First Class Undergraduate Scholarships, Peking University, 2005-2007;
 - Dean's List, Hong Kong University of Science and Technology, 2006;
 - Provincial First Prize, Chinese Olympiad in Physics, 2003;
 - Provincial Second Prize, Chinese Olympiad in Mathematics, 2003;
 - Provincial Second Prizes, Chinese Olympiad in Chemistry, 2002 and 2003.
-

Working Papers

Identification and Estimation of Nonparametric Hedonic Equilibrium Model with Unobserved Quality (Job Market Paper, November 2016)

- **Abstract:** This paper studies a nonparametric hedonic equilibrium model in which certain product characteristics are unobserved by researchers. Unlike most previously studied hedonic models, the observed and unobserved agent heterogeneities both enter the structural functions nonparametrically. Prices are endogenously determined in the equilibrium. Using both within- and cross-market price variations, I show the nonparametric identification of all the structural functions of the model up to normalization. In particular, the unobserved product quality function is identified if the relative prices of the agent characteristics differ in at least two markets. Following the constructive identification strategy, I provide easy-to-implement series minimum distance estimators of the structural functions and derive their uniform rates of convergence. To illustrate the estimation procedure, I estimate the unobserved efficiency of American full-time workers as a function of age and unobserved ability.

Uniform Asymptotic Risk of Averaging GMM Estimator Robust to Misspecification (Joint work with Xu Cheng and Zhipeng Liao, April 2016, R&R at *Quantitative Economics*)

- **Abstract:** This paper studies the averaging GMM estimator that combines a conservative GMM estimator based on valid moment conditions and an aggressive GMM estimator based on both valid and possibly misspecified moment conditions, where the weight is the sample analog of an infeasible optimal weight. We establish asymptotic theory on uniform approximation of the upper and lower bounds of the finite-sample risk difference between two estimators, which is used to show that the averaging estimator uniformly dominates the conservative estimator by reducing the risk under any degree of misspecification. Extending seminal results on the James-Stein estimator, the uniform dominance is established in non-Gaussian semiparametric nonlinear models. The simulation results support our theoretical findings. The proposed averaging estimator is applied to estimate the human capital production function in a life-cycle labor supply model.

Synthetic Control and Inference (Joint work with Jinyong Hahn, October 2016)

- **Abstract:** We examine properties of permutation tests in the context of synthetic control. Permutation tests are frequently used method of inference for synthetic control when the number of potential control units is small. We show that the size of permutation tests may be distorted. Several alternative methods are discussed.
-

Journal Referee

Quantitative Economics.

Conference Presentations

- | | |
|---|-----------------------------|
| Annual Meeting of Midwest Econometrics Group | UIUC, USA, Oct. 2016 |
| Econometric Society Asian Meeting | Kyoto, Japan, Aug. 2016 |
| Econometric Study Group Bristol Conference | Bristol, UK, Jul. 2016 |
| California Econometrics Conference | Los Angeles, USA, Sep. 2015 |
| Annual Conference of China Economic Association | Zhengzhou, China, Nov. 2010 |
-

Other Research Experiences

- Research Assistant for Prof. Rosa L. Matzkin 2013-2014
- “Estimation of Nonparametric Models with Simultaneity”, 2015, *Econometrica*, Vol. 83, No. 1, p. 1-66.
- Research Assistant for Prof. Zhipeng Liao 2014
- “On Standard Inference for GMM with Seeming Local Identification Failure”, 2016, with Ji Hyung Lee, R&R at *Econometric Theory*.
-

Teaching Interests

Econometrics, Microeconomics

Teaching Experiences

- Teaching Assistant UCLA, 2012-2015
- Ph.D. Core: Econometrics III (for Prof. Zhipeng Liao), Spring 2013, 2014, 2015**
- Led weekly two-hour discussion sessions.
- Undergraduate:**
- Introduction to Econometrics, Statistics for Economics, Intermediate Microeconomics, Principle of Economics (for different professors), various quarters 2012-2015
 - Led two weekly one-hour discussion sessions for each course.
- Ph.D. Core Econometrics Tutor UCLA, Winter 2014
- Teaching Assistant Peking University, Spring 2010 & Fall 2010
- MBA: Game Theory, Corporate Finance (for Prof. Ho-Mou Wu)**
-

Skills

Languages: Chinese Mandarin (native), English (fluent)

Software: Matlab, R, Stata, L^AT_EX