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EDUCATION	Massachusetts Institute of Technology, 2010 Ph.D. Economics Brigham Young University, 2004 B.S. Physics and Economics (<i>Summa cum Laude</i> and University Honors)				
CITIZENSHIP	USA	GENDER	MALE	DATE OF BIRTH	August 1980
LANGUAGES	English (native), Hungarian (fluent)				
FIELDS	Primary Fields: Labor Economics, Econometrics Secondary Fields: Health Economics, Public Finance				
RELEVANT POSITIONS	Associate Professor, Department of Economics, BYU				2018-present
	Visiting Associate Professor, Department of Economics, MIT				2018-2019
	Assistant Professor, Department of Economics, BYU				2012-2018
	Robert Wood Johnson Scholar in Health Policy Research, Harvard				2010-2012
	Management Consultant, McKinsey & Company				2004-2006
FELLOWSHIPS, HONORS, AND AWARDS	NSF Graduate Research Fellowship NSF Doctoral Dissertation Research Improvement Grant (\$15,000), 2009 MIT Economics Department Graduate Fellowship, 2006-2008 Best Graduate Teaching Assistant, MIT Economics Department, 2009,2010				
PUBLICATIONS:	“The Surprising Impacts of Unionization: Evidence from Matched Employer-Employee Data,” accepted at <i>Journal of Labor Economics</i> “Partial Identification of the Distribution of Treatment Effects, with an Application to the Knowledge is Power Program (KIPP)” (with Lars Lefgren), forthcoming at <i>Quantitative Economics</i>				

- PUBLICATIONS (CONTINUED)
- “Fragmented Division of Labor and Healthcare Costs: Evidence from Moves Across Regions”** (with Leila Agha and James Rebitzer), *Journal of Public Economics*, Vol. 169, p. 144-159, January 2019
- “Sticking Points: Common Agency Problems and Contracting in the U.S. Healthcare System”** (with Michael Powell and James Rebitzer) *RAND Journal of Economics*, Vol. 50, No. 2, Summer 2019 pp. 251–285
- “Testing Censoring Point Independence,”** *Journal of Business & Economic Statistics*, 2019 37:3, 496-505
- “Testing Rank Similarity,”** with Lars Lefgren, *Review of Economics and Statistics*, 2018 100:1, 86-91
- “Public Employee Pensions and Collective Bargaining Rights: Evidence from State and Local Government Finances ,”** accepted, *Journal of Law, Economics & Policy*”
- “Party Bias in Union Representation Elections: Testing for Manipulation in the Regression Discontinuity Design when the Running Variable is Discrete,”** *Advances in Econometrics* vol. 38, 2017
- “Treatment Effects with Censoring and Endogeneity,”** *Journal of the American Statistical Association*, volume 110, issue 512, 2015
- “The Effects of Collective Bargaining Rights on Public Employee Compensation: Evidence from Teachers, Fire Fighters, and Police,”** *Industrial and Labor Relations Review* 69(1) January 2016
- “Impacts of Unionization on Quality and Productivity: Regression Discontinuity Evidence from Nursing Homes,”** *Industrial & Labor Relations Review*. 68(4): 771-806 August 2015 (with Aaron Sojourner, Robert Town, David Grabowski, and Michelle Chen)
- “Structuring Incentives within Organizations: The Case of Accountable Care Organizations,”** *The Journal of Law, Economics, and Organizations* 31 August 2015, with James Rebitzer
- “Care Fragmentation, Quality, and Healthcare Spending among Chronically Ill, Commercially Insured Patients,”** *American Journal of Managed Care*, 21(5):355-362 May 2015 (with Ashish Jha, Karen Joynt, and Jim Rebitzer)
- “Randomization Inference in the Regression Discontinuity Design: An Application to Party Advantages in the U.S. Senate,”** *The Journal of Causal Inference*, 3(1):1-24 March 2015, (with Rocio Titiunik and Matias Cattaneo)
- “Quantile Treatment Effects in the Regression Discontinuity Design,”** *Journal of Econometrics* 168(2) June 2012, with Markus Froelich and Blaise Melly

“Did Vietnam Veterans Get Sicker in the 1990s? The Complicated Effects of Military Service on Self-Reported Health,” *Journal of Public Economics* 94(11-12) December 2010, with Joshua Angrist and Stacey Chen

“Some Variations on Standard Income Measurement Error Models,” *Journal of Income Distribution*, 2004, with James B. McDonald

“Acceleration of Free Electrons in a Symmetric Evanescent Wave,” *Laser Physics*, 2006, with Justin B. Peatross and Scott A. Glasgow

**RESEARCH
PAPERS:**

“Machine Labor”

NBER Working Paper 26584, with Joshua Angrist

Machine learning (ML) is mostly a predictive enterprise, while the questions of interest to labor economists are mostly causal. In pursuit of causal effects, however, ML may be useful for automated selection of ordinary least squares (OLS) control variables. We illustrate the utility of ML for regression-based causal inference by using lasso to select control variables for estimates of effects of college characteristics on wages. ML also seems relevant for an instrumental variables (IV) first stage, since the bias of two-stage least squares can be said to be due to overfitting. Our investigation shows, however, that while ML-based instrument selection can improve on conventional 2SLS estimates, split-sample IV and LIML estimators do better. In some scenarios, the performance of ML-augmented IV estimators is degraded by pretest bias. In others, nonlinear ML for covariate control creates artificial exclusion restrictions that generate spurious findings. ML does better at choosing control variables for models identified by conditional independence assumptions than at choosing instrumental variables for models identified by exclusion restrictions.

“Judging Judge Fixed Effects”

NBER Working Paper 25528, with Lars Lefgren and Emily Leslie

We propose a test for the identifying assumptions invoked in designs based on random assignment to one of many "judges." We show that standard identifying assumptions imply that the conditional expectation of the outcome given judge assignment is a continuous function with bounded slope of the judge propensity to treat. The implication leads to a two-part test that generalizes the Sargan-Hansen overidentification test and assesses whether implied treatment effects across the range of judge propensities are possible given the domain of the outcome. We show the asymptotic validity of the testing procedure, demonstrate its finite-sample performance in simulations, and apply the test in an empirical setting examining the effects of pre-trial release on defendant outcomes in Miami. When the assumptions are not satisfied, we propose a weaker average monotonicity assumption under which IV still converges to a proper weighted average of treatment effects.

“Exact Nonparametric Inference for a Binary Endogenous Regressor”

This paper describes a randomization-based inference procedure for the distribution or quantiles of potential outcomes for a binary treatment and instrument. The method imposes no parametric model for the treatment effect, and remains valid for small n , a weak instrument, or inference on tail quantiles, when conventional large-sample methods break down. The

method is illustrated using simulations and data from a randomized trial of college student incentives and services.

**PROFESSIONAL
ACTIVITIES**

Referee:

American Economic Journal: Applied Economics
American Economic Journal: Policy
American Economic Review
Biometrics
Biostatistics
Contemporary Economic Policy
Econometric Theory
Economic Inquiry
Economic Journal
Economics of Education Review
Empirical Economics
Health Affairs
Industrial and Labor Relations Review
Industrial Relations
International Journal of Health Economics and Management
Journal of Applied Econometrics
Journal of Business & Economic Statistics
Journal of Econometrics
Journal of Experimental Political Science
Journal of Health Economics
Journal of Human Resources
Journal of Labor Economics
Journal of Political Economy
Journal of Public Economics
Journal of the American Statistical Association
Journal of the European Economic Association
Labour
MIT Press
National Science Foundation
Oxford Bulletin of Economics and Statistics
Oxford Economic Papers
Quarterly Journal of Economics
Quarterly Journal of Political Science
Review of Economics and Statistics
Social Science Quarterly

Presentations:

Duke-Northwestern Causal Inference Workshop, Durham, NC	August 2019
Conference in honor of Whitney Newey, MIT, Cambridge, MA	May 2019
Iowa Econometrics Conference, University of Iowa	May 2019
MIT Applied Micro Seminar, Cambridge, MA	February 2019
Brown University Economics Seminar, Providence, RI	January 2019
CREST Econometrics Seminar, Paris, France	December 2018
CM Statistics, Pisa, Italy	December 2018
Boston University Econometrics Seminar, Boston, MA	November 2018
Duke University Econometrics Seminar, Durham, North Carolina	October 2018
Boston College Econometrics Seminar, Boston, MA	September 2018
Western Economic Association Summer Meetings, Vancouver	June 2018
Southern Utah University Economics Seminar, Cedar City, UT	March 2018
University of Michigan Econometrics Seminar, Ann Arbor, Michigan	September 2017

Institute for Economic and Social Research, Jinan University, Guangzhou, China	August 2017
Brookings Institution Municipal Finance Conference, Washington, D.C.	July 2017
Society of Labor Economists Annual Meeting, San Diego, CA	June 2017
University of Utah Entrepreneurship and Strategy Seminar, Salt Lake City, Utah	April 2017
Syracuse University Economics Seminar, Syracuse, New York	April 2017
Public Policy Conference on Solving the Public Pension Crisis, GMU Scalia Law School	December 2016
UC Riverside Economics Seminar, Riverside, California	November 2016
APPAM	November 2016
California Econometrics Conference, Provo, Utah	October 2016
Research Roundtable on Solving the Public Pension Crisis, GMU Scalia Law School	September 2016
University of Utah Economics Seminar, Salt Lake City, Utah	September 2016
Advances in Econometrics Conference, University of Michigan	May 2016
Federal Reserve NYC Microeconomics Seminar, NYC	May 2016
UC Irvine Econometrics Seminar, Irvine	May 2016
UCLA Econometrics Seminar, Los Angeles	April 2016
Columbia University Econometrics Seminar, NYC	October 2015
California Econometrics Conference, USC	September 2015
Econometric Society World Congress, Montreal	August 2015
Western Economic Association Summer Meetings, Honolulu	June 2015
Harvard-MIT Econometrics Seminar, Cambridge	May 2015
University of Minnesota Carlson School of Management Seminar, Minneapolis	May 2015
UC Davis Econometrics Seminar, Davis	May 2015
Econometric Society North American Winter Meetings, Boston	January 2015
AEA Annual Meetings, Boston	January 2015
California Econometrics Conference, Stanford University	September 2014
Econometric Society North American Summer Meetings, University of Minnesota	June 2014
Econometric Society North American Summer Meetings, University of Southern California	June 2013
Conference on Healthcare Markets, Kellogg School of Management, Evanston	May 2013
AEA Annual Meetings, San Diego	January 2013
Haas-Sloan Conference on the Law and Economics of Organizations, UC Berkeley	December 2012
Econometric Society North American Summer Meetings, Northwestern University	June 2012
American Society of Health Economists Annual Meeting, University of Minnesota	June 2012
Northwestern Searle Center Conference on Government Unions in the United States, Chicago	October 2011
Econometric Society North American Summer Meetings, Washington University, St. Louis	June 2011
AEA Annual Meetings, Denver	January 2011
Census Research Data Center Annual Conference, University of Maryland	November 2010
NBER Labor Studies Program Meeting, Cambridge, MA	October 2010
Econometric Society World Congress, Shanghai	August 2010
Society of Labor Economists Annual Meetings, University College London	June 2010
Econometric Society North American Summer Meetings, Boston University	June 2009
Society of Labor Economists Annual Meetings, Cambridge, MA	May 2009

