

Chapman University
Argyros School of Business
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CURRENT POSITION

Chapman University, Argyros School of Business Assistant Professor, Economics and Management Science 2017-

PRIOR POSITIONS

MIT, Department of Political Science
Visiting Lecturer Fall, 2016

Wellesley College, Department of Economics
Visiting Lecturer Spring, 2015

EDUCATION

Ph.D., Economics, Boston University 2017
M.Sc., Management and Applied Economics, Wharton, University of Pennsylvania 2011
A.B., Economics, University of Chicago 2005

RESEARCH INTERESTS

Development Economics, Economics of Digitization, Applied Machine Learning, Applied Deep Learning

PUBLICATIONS AND WORKING PAPERS

- (7) Matthew Harding and **Jonathan Hersh**. Big Data in Economics *Forthcoming, IZA World of Labor*
- (6) Ryan Enstrom, **Jonathan Hersh**, and David Newhouse. [Poverty from Space: Using High Resolution Satellite Imagery for Estimating Economic Well-being](#) *Submitted*
- (5) Klaus-Peter Hellwig and **Jonathan Hersh** "Unintended Consequences of the African Growth and Opportunity Act: The Role of Trade Diversion and Structural Change," February 2016. *Available upon request*
- (4) Marium Afzal, **Jonathan Hersh**, and David Newhouse. [Building a Better Model: Variable Selection to Predict Poverty in Pakistan and Sri Lanka](#), *World Bank Research Working Paper*
- (3) Marianne Baxter and **Jonathan Hersh** [Robust Determinants of Trade Flows](#) May 2015.
- (2) Brian Bettenhausen, Eric Hanss, **Jonathan Hersh**, and Carlos Villarreal. [Historical Health Conditions in Major US Cities: The HUE Data Set](#) *Historical Methods*, (2014) 47: 67-80.
- (1) **Jonathan Hersh** and Hans-Joachim Voth. (2011). [Sweet Diversity: Overseas Trade and Gains from Variety after 1492](#)

SELECTED WORK IN PROGRESS

Predicting Firm Performance with API Flows, with Seth Benzell, Guillermo Lagarda Cuervas, and Marshall Van Alstyne [[latest slides](#)]

Analyzing Conflict From Space: Identification of Physical Destruction During the Syrian Civil War with Artificial Intelligence, with Andre Groger, Andrea Matranga and Hannes Mueller [[latest slides](#)]

How Can Poverty Estimates Derived from Artificial Intelligence and Satellite Imagery Improve Surveys? Evidence from Mexico, with Boris Babenko, David Newhouse, Anusha Ramakrishnan, and Tom Swartz [[latest slides](#)]

Asking the Right Question: Parsimonious Survey Design Using Group Lasso and Sparse Group Lasso, with Leonardo Lucchetti and Nancy Nugent

Cell Phone Coverage and Traffic Accidents: New Evidence Using Cell Phone Towers, with Bree Lang and Matthew Lang

CONFERENCE PUBLICATIONS

(2) Boris Babenko, **Jonathan Hersh**, David Newhouse, Anusha Ramakrishnan, and Tom Swartz. [Poverty Mapping Using Convolutional Neural Networks Trained on High and Medium Resolution Satellite Images, With an Application in Mexico](#), Neural Information Processing Systems (NIPS 2017)

(1) Engstrom, R., Newhouse, D., Haldavanekar, V., Copenhaver, A., & **Hersh, J.** (2017, March). [Evaluating the Relationship Between Spatial and Spectral Features Derived from High Spatial Resolution Satellite Data and Urban Poverty in Colombo, Sri Lanka](#). In Urban Remote Sensing Event (JURSE), 2017 Joint (pp. 1-4). IEEE.

INVITED SEMINAR PRESENTATIONS

2017-2018: UC Riverside; Penn State; University of Southern California; Princeton University (Empirical Studies of Conflict)

2016-2017: Chapman University (Argyros School of Business); World Bank (Development Economics Group)

INVITED CONFERENCE PRESENTATIONS

2019: American Economic Association Annual Meeting (*scheduled*)

2018: INFORMS International; Statistical Challenges in E-Commerce Research 2018; Empirical Studies of Conflict; New York R Conference; 11th Digital Economics Conference (Toulouse School of Economics); Artificial Intelligence for Development (CEGA/World Bank); Pacific Development Conference (UC Davis)

2017: Geospatial Analysis for International Development (CEGA/Berkeley); UN Development Program (Human Development Report Office); World Bank (POV Summer University); Princeton University (Empirical Studies of Conflict); Prediction for Prevention of Armed Conflict (Barcelona, Spain)

2016: Computational and Financial Econometrics (Seville, Spain); Annual Bank Conference on Development Economics (World Bank); Center for the Study of African Economies: Economic Development in Africa (Oxford); Eastern Economic Association; Kiel Institute (Firms in International Trade Summer School)

TEACHING

Chapman University

Fall 2019: Statistical Models in Business Analytics (x2) [[Syllabus](#)]

Fall 2019: Development Economics [[Syllabus](#)]

Spring 2018: Machine Learning Applications in Business [[Syllabus](#)]

Fall 2018: Introduction to Business Analytics [[Syllabus](#)]

MIT

Fall 2017: Quantitative Research Methods III (Political Science PhD quantitative sequence) [[Syllabus](#)]

World Bank, Summer University

Summer 2018: Introduction to Machine Learning [[Syllabus](#)]

Summer 2017: Introduction to Machine Learning

Summer 2016: Introduction to Machine Learning

Wellesley College

Spring 2016: Development Economics [[Syllabus](#)]

Spring 2016: Introductory Microeconomics [[Syllabus](#)]

PROFESSIONAL SERVICE

Referee: *World Bank Economic Review, Journal of Business Analytics*

Panel Organizer: Pacific Development Conference 2018

Instructor's Manual Author: *R for Everyone: Advanced Analytics and Graphics* (Addison Wesley) [[link1](#)] [[link2](#)]

Discussant: 11th Digital Economics Conference (Toulouse School of Economics) [[slides](#)]; Pacific Development Conference (UC Davis) [[slides](#)]

DEPARTMENT AND UNIVERSITY SERVICE

Committee Member: Graduate and MBA Academic Committee 2018-19

Reviewer: Kay Family Foundation Data Analytics Grant 2018

FELLOWSHIPS AND AWARDS

La Caixa Research Grant on Socioeconomic Well-being (\$20,000) 2017

Hariri Institute for Computational Science Graduate Fellowship 2016

Big Data Innovation Challenge Award, World Bank Group (\$104,000) 2014

Teaching Fellowship, Boston University 2013-2014

PREVIOUS POSITIONS

Consultant, World Bank Group, Poverty Global Practice 2014-2016

Research Manager, University of Chicago Center for Population Economics 2011-2012

Research Professional (RA Emily Oster), University of Chicago Booth School of Business 2008-2009

Economist, RCF Economic and Financial Consulting 2006-2008

Systems Analyst and Developer, McMaster-Carr Supply Company 2005-2006

INDUSTRY ADVISING

[DoubleCheck Solutions](#) (*Member, Analytics Advisory Board*)
[Lander Analytics](#)
[Arconic](#) (*Introduction to Deep Learning Mini-Course*) [[Syllabus](#)]
World Bank
Inter-American Development Bank

SOFTWARE

Rlasso A Stata wrapper that allows for estimation of glmnet models within Stata. Performs regularization and best subset selection using the R glmnet package for Lasso, Ridge and Elastic Net regression from within Stata. [[code](#)] [[help file](#)] [[desc](#)]

CODING

R, Stata, Python, C++, SQL, Keras

REFERENCES

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|---|--|--|
| Ray Fisman Boston University Phone: (617) 353-6821 Email: rfisman@bu.edu | Sam Bazzi Boston University Phone: (617) 353-6150 Email: sbazzi@bu.edu | Marianne Baxter Boston University Phone: (617) 353-4399 Email: mbaxter@bu.edu |
| Matthew Harding UC Irvine Email: harding1@uci.edu | (Teaching) Daniel Hidalgo MIT Phone: (617) 253-5262 Email: dhidalgo@mit.edu | (Teaching) Kristen Butcher Wellesley College Phone: (781) 283-2179 Email: kbutcher@wellesley.edu |
