

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-Present  
Academic Director, Data Analytics Accelerator 2020-Present

## PRIOR POSITIONS

**MIT**, *Department of Political Science*  
Visiting Lecturer Fall, 2016

**Wellesley College**, *Department of Economics*  
Visiting Lecturer Spring, 2016

## EDUCATION

Ph.D., Economics, Boston University 2012-2017  
M.Sc., Management and Applied Economics, Wharton, University of Pennsylvania 2009-2011  
M.Sc., Economics, Barcelona Graduate School of Economics 2007-2008  
A.B., Economics, University of Chicago 2001-2005  
University of Kansas, Coursework in Computer Science and Mathematics 2000

## RESEARCH INTERESTS

Economics of Information Systems, IT for Development, Economics of Digitization, Online Media Piracy, IT Strategy, Applied Deep Learning, Machine Learning and Predictive Modeling

## PEER-REVIEWED PUBLICATIONS

- (8) Jonathan Hersh, Bree Lang, & Matthew Lang. (2022) [Sweet Diversity: Overseas Trade and Gains from Variety after 1492](#). Conditionally accepted at **Explorations in Economic History**
- (7) Jonathan Hersh, Bree Lang, & Matthew Lang. (2022) [Car accidents, smartphone adoption and 3G coverage](#). **Journal of Economic Behavior & Organization**, 196, 278-293.
- (6) Ryan Engstrom, Jonathan Hersh, & David Newhouse. (2021). [Poverty from Space: Using High Resolution Satellite Imagery for Estimating Economic Well-being](#), **The World Bank Economic Review**; lhabo15, <https://doi.org/10.1093/wber/lhabo15>
- (5) Hannes Mueller, Andre Groger, Jonathan Hersh, Andrea Matranga, & Joan Serrat. (2021). [Analyzing Conflict From Space: Identification of Physical Destruction During the Syrian Civil War with Artificial Intelligence](#) **Proceedings of the National Academy of Sciences**, June 8, 2021 118 (23) e2025400118; <https://doi.org/10.1073/pnas.2025400118>
- (4) Jonathan Hersh, Ryan Engstrom, & Michael Mann, (2020). [Open data for algorithms: mapping poverty in Belize using open satellite derived features and machine learning](#). **Information Technology for Development**, 1-30.
- (3) Brett Danaher, Jonathan Hersh, Michael D. Smith, & Rahul Telang R. (2020). [The Effect of Piracy Website Blocking on Consumer Behavior](#) **MIS Quarterly**, 44:2
- (2) Matthew Harding & Jonathan Hersh. (2018). [Big Data in Economics](#) **IZA World of Labor**

(1) Brian Bettenhausen, Eric Hanss, Jonathan Hersh, & Carlos Villarreal. (2014). [Historical Health Conditions in Major US Cities: The HUE Data Set](#) *Historical Methods*, 47: 67-80.

## PAPERS WITH EDITORIAL DECISIONS

Seth Benzell, Jonathan Hersh, & Marshall Van Alstyne. (2021). [How APIs Create Growth by Inverting the Firm](#)

- Minor revisions requested at *Management Science*

## SUBMITTED PAPERS

Brett Danaher & Jonathan Hersh. (2020). [Whom Should Antipiracy Enforcement Actions Target? Evidence from the MegafilmesHD Shutdown in Brazil](#)

- *Revising draft in preparation for submission*

## WORK IN PROGRESS

Selina Carter & Jonathan Hersh. (2022). Will AI Accelerate the Intra-Firm Digital Divide? Evidence from a Field Experiment on How Managers use Explainable AI

- *Revising draft in preparation for submission*

Seth Benzell, Jonathan Hersh, and Marshall Van Alstyne. Do Startups Invert? APIs Networks and Startup Exits

Luis Alberro, Joshua Anderson, Jonathan Hersh, Tina George, and Kushal Kumar Reddy. (2022). A Scalable Solution to the Facility Location Problem in Data Poor Environments.

## CONFERENCE PUBLICATIONS

(2) Boris Babenko, Jonathan Hersh, David Newhouse, Anusha Ramakrishnan, & Thomas Swartz. [Poverty Mapping Using Convolutional Neural Networks Trained on High and Medium Resolution Satellite Images, With an Application in Mexico](#), Neural Information Processing Systems Workshop on Machine Learning for the Developing World (NeurIPS 2017)

(1) Ryan Engstrom, David Newhouse, Vishwesh Haldavanekar, Andrew Copenhaver, & Jonathan Hersh. (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.

## POLICY REPORTS AND BOOK CHAPTERS

(2) Jonathan Hersh, Lucia Martin Rivero, & Janelle Leslie. (May, 2021). [Where are the unbanked in Belize? Using Machine Learning small area estimation to improve Financial Inclusion geographic targeting](#) Inter-American Development Bank Monograph, May 2021 <http://dx.doi.org/10.18235/0003381>

(1) Jonathan Hersh, Ryan Engstrom, Michael Mann, Alejandra Mejia, & Lucia Martin Rivero. (May, 2020). [Mapping Income Poverty in Belize Using satellite Features and Machine Learning](#) Inter-American Development Bank Monograph, May 2020 <http://dx.doi.org/10.18235/0002345>

## CONFERENCE AND SEMINAR PRESENTATIONS

*Will AI Accelerate the Intra-Firm Digital Divide? Evidence from a Field Experiment on How Managers use Explainable AI*

- UC Riverside, Department of Economics (4/2022)
- USC Marshall School of Business, Management & Organization (9/2021)
- Global Conference on Innovations in Management and Business (2021)

- INFORMS Conference on Information Systems & Technology (CIST) (2020)

*How APIs Create Growth by Inverting the Firm*

- \*Columbia/Wharton Management, Analytics And Data Conference (2022)
- Statistical Challenges in E-Commerce Research (2018)

*Digitally Distracted at the Wheel: Myopic Smartphone Use and Car Accidents*

- Anahuac University, Mexico (2/2020)
- Federal Communications Commission (9/2019)
- \*American Economic Association Annual Meeting (1/2019)
- \*UC Riverside (2018)

*Whom Should Antipiracy Enforcement Actions Target? Evidence from the MegafilmesHD Shutdown in Brazil*

- \*Statistical Challenges in E-Commerce Research (2019)

*Analyzing Conflict From Space: Identification of Physical Destruction During the Syrian Civil War with Artificial Intelligence*

- \*Berkeley (2020)
- \*ENS Lyon (2019)
- \*Trinity College (2019)
- \*Uppsala ViEWS (2019)
- INFORMS International (2018)
- Empirical Studies of Conflict Annual Meeting (2018)
- Artificial Intelligence for Development (CEGA/World Bank) (2018)
- Princeton University, Empirical Studies of Conflict (3/2018)

*Combining Deep Learning With Surveys to Generate Better Poverty Maps, with an application to Mexico*

- Pacific Development Conference (2018)

*Poverty from Space: Using High Resolution Satellite Imagery for Estimating Economic Well-being*

- UC Riverside (11/2017)
- Penn State (10/2017)
- University of Southern California (9/2017)
- UN Development Program, Human Development Report Office (7/2017)
- Princeton University, Empirical Studies of Conflict (7/2017)
- Chapman University, Argyros School of Business (12/2016)
- World Bank, Development Economics Group (1/2017)
- Geospatial Analysis for International Development, CEGA/Berkeley, (2017)
- Prediction for Prevention of Armed Conflict, Barcelona, Spain (2017)
- World Bank Annual Bank Conference on Development Economics (2016)

*Unintended Consequences of the African Growth and Opportunity Act: The Role of Trade Diversion and Structural Change*

- Computational and Financial Econometrics (2016)
- Center for the Study of African Economies: Economic Development in Africa (2016)
- Eastern Economic Association (2016)

\* Denote presentation by co-author

## TEACHING

Chapman University

- MGSC 310: Statistical Models in Business Analytics (Introduction to Machine Learning) [[Syllabus](#)]
- Fall 2021 (x2) [*Instructor rating: 4.1/5*]

- Fall 2020 (x2) [*Instructor rating: 4.27/5*]
- Fall 2019 (x2) [*Instructor rating: 4.32/5*]

BUS 696: Special Topics in Business (Machine Learning for Managers) [[Syllabus](#)]

- Fall 2021 [*Instructor rating: 4.88/5*]
- Fall 2020 [*Instructor rating: 4.49/5*]
- Fall 2019 [*Instructor rating: 3.49/5*]

ECON 441: Development Economics

- Fall 2018 [*Instructor rating: 4.45/5*] [[Syllabus](#)]
- Spring 2018 [*Instructor rating: 3.81/5*]

MGSC 207: Introduction to Business Analytics

- Fall 2017 [*Instructor rating: 4.21/5*] [[Syllabus](#)]

Anahuac University, Mexico City

Introduction to Machine Learning

- Winter 2020 [[Syllabus](#)]

MIT

Quantitative Research Methods III (Political Science PhD quantitative sequence)

- Fall 2017 [[Syllabus](#)]

Wellesley College

Development Economics

- Spring 2016, [[Syllabus](#)] [92.8% course recommend/strongly recommend/neutral]

Introductory Microeconomics

- Spring 2016 (x2) [[Syllabus](#)] [95.2% course recommend/strongly recommend/neutral]

World Bank

Introduction to Machine Learning

- Winter 2019, [*Instructor rating: 6.23/7*]
- Summer 2018, [*Instructor rating: 6.07/7*]
- Summer 2017, [*Instructor rating: 6.64/7*]
- Summer 2016

## PROFESSIONAL SERVICE

**Ad Hoc Referee:** *Information Systems Research, MIS Quarterly, Management Science, Review of Economic Studies, World Bank Economic Review, Journal of Business Analytics, Economic Inquiry, PLOS ONE, Social Sciences & Humanities Open, ICIS 2020, ICIS 2021*

**Editorial Board:** *Journal of Business Analytics*

**Program Committee:** ACM (Association for Computing Machinery) Conference on Computing and Sustainable Societies (ACM COMPASS 2020), 2020, 2021

**Panel Organizer:** Inter-American Development Bank (Big Data for Migration) 2019; 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**

**2020-2021**

- Management Science hiring committee
- Academic Director, Data Analytics Accelerator
- Academic Adviser, Data Analytics Association student club

**2019-2020**

- Management Science hiring committee
- Reviewer, Faculty Opportunity Fund University Grant
- Academic Adviser, Data Analytics Association student club
- Center for UG Excellence UG Scholarly/Creative Grant Reviewer

**2018-2019**

- Graduate and MBA Academic Committee Member
- Judge, American Statistical Association Southern California DataFest
- Management Science hiring committee
- Judge, Panther Cage Match, Leatherby Center for Entrepreneurship and Business Ethics

**2017-2018**

- Management Science hiring committee
- Reviewer, Kay Family Foundation Data Analytics Grant
- Graduate and MBA Academic Committee Member
- Judge, American Statistical Association Southern California DataFest

**FELLOWSHIPS AND AWARDS**

- Faculty Career Champion Nominee, 2021
- Kay Family Foundation Data Analytics Grant, “Towards Responsive Social Safety Nets: Openly Derived Indicators as Proxies for Subnational Multi-Dimensional Vulnerability in Africa” (\$93,150) 2020-2022
- Chapman University Faculty Opportunity Fund (\$13,460) 2019
- 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
- Dean’s List, University of Chicago

**INDUSTRY POSITIONS**

- Principal Machine Learning Scientist, WorkHelix 2022-
- Consultant, Inter-American Development Bank, Data Science 2019-21
- Consultant, World Bank Group, Data Science 2014-2016; 2018-20
- 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, McMaster-Carr Supply Company 2005-2006

**INDUSTRY ADVISING**

- Advisory Board, AmplifAir
- Advisor, [DoubleCheck Solutions](#)
- Advisor, [Lander Analytics](#)
- [Introduction to Machine Learning](#), Central Bank of Belize, 2020
- [Introduction to Machine Learning](#), Statistical Institute of Belize, 2019
- [Introduction to Deep Learning](#), Arconic 2018

## OTHER PUBLIC TALKS

[Why Is It So Hard to Scale Development Data Projects? Answer: Build a Data Lake First](#), Private Sector Development Research Network Workshop on Firm level Data, April 6, 2021

[Get Your Hands Dirty: You Should Model with Unstructured Data](#), University of Michigan, School of Information guest lecture, March 30, 2021

[How to Start a Data Science Insurrection at an Organization that Would Prefer You Not](#), DC R Conference, November 9, 2018

Applications of Machine Learning to Development Economics Research, June 8, 2018 [\[slides\]](#)

[Applying Deep Learning to Satellite Images to Estimate Violence in Syria and Poverty in Mexico](#), New York R Conference, April 21, 2018

## 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, PyTorch, TensorFlow, AWS stuff*

## REFERENCES

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Marshall Van Alstyne Boston University Phone: (617) 358-3571 <a href="mailto:mva@bu.edu">mva@bu.edu</a>	Michael D Smith Carnegie Mellon Phone: (412) 268-5978 <a href="mailto:mds@cmu.edu">mds@cmu.edu</a>	Sam Bazzi UCSD Phone: (617) 353-6150 <a href="mailto:sbazzi@ucsd.edu">sbazzi@ucsd.edu</a>
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